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# Journal of the American Veterinary Medical Association

## CONTENTS

### GENERAL ARTICLES

Veterinary Education in the Postwar World—William A. Hagan, .....	269
Keeping Livestock Healthy—Hon. George W. Gillie, .....	275
Visualized Veterinary Chemistry—A. H. Bryan, .....	279
Publication Rules of the AVMA (Synonyms and Everyday Errors).....	281

### SURGERY AND OBSTETRICS

Retained Afterbirth in Dairy Cattle—S. L. Stewart, .....	283
Horse Feeds and Lameness.....	285
Whipple's Operation for Prolapse of the Vagina in Bitches.....	286
Prepubic Syndesmorhexis in a Ewe.....	288
Killing Solipeds .....	288

### CLINICAL DATA

Clinical Notes .....	289
Phenothiazine in Human Medicine.....	289
Green's Modified Canine Distemper Virus Vaccine: A Clinical Study of Its Efficacy— Carl F. Schlotthauer, .....	290
The Sciences .....	292
Confined Boars Poor Surgical Risks.....	293
A Singing K9 .....	293
Brucellosis: A Hard Wallop.....	293

### NUTRITION

Recommendations for Prevention of Bloat in Cattle and Sheep.....	294
--	-----

(Continued on page iv)

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**FOREIGN LANGUAGE ABSTRACTING:** Chas. H. Haasjes (Dutch), E. E. Hamann (German), A. G. Karlson (Scandinavian).

\$7.00 per annum. Foreign \$8.00; Canada \$8.00 Single Copies 75 cts. prepaid in U. S.

Published monthly at 600 N. Michigan Ave., Chicago, Ill., by the American Veterinary Medical Association. Entered as second class matter August 10, 1932, at the Post Office at Chicago, Illinois, under the act of March 3, 1879. Accepted for mailing at special rate of postage provided for in Section 533, act of February 23, 1935, authorized August 10, 1935. Contents copyright 1942. Reproduction of any part of this publication is prohibited, unless special permission is given. Permission will be given if the purpose seems justifiable and, in signed articles, if the rights or requests of the author are not violated thereby. Reprints should be ordered in advance. Prices will be quoted after publication. Please send prompt notice of change of address, giving both old and new. Advise whether the change is temporary or permanent. Address all correspondence to American Veterinary Medical Association.

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# CONTENTS—Continued

## EDITORIAL

Who Lagged, the Colleges or Their Graduates?.....	297
The Size of the Association's Journals.....	298
Postwar Veterinary Education.....	298
Vaccinate Them Is the Trick.....	299
The Longevity of Veterinary Journals.....	299

## CURRENT LITERATURE

*Abstracts:* Sulfonamides in Oil, 300; Human and Equine Encephalitides in Kansas, 300.  
*Books:* Forty-Fifth Annual Proceedings of the United States Live Stock Sanitary Association, 300; New York State Veterinary College Announcement, 301.

## THE NEWS

<i>AVMA Activities</i> .....	302
<i>Applications</i> .....	305
<i>Commencements</i> .....	308
<i>U. S. Government</i> .....	310
<i>Among the States</i> .....	311
<i>Coming Meetings</i> .....	314
<i>Deaths</i> .....	314

## THE VETERINARY PROFESSION AND THE WAR

Report on the Veterinary Student Situation.....	315
---	-----

## COMMITTEE REPORTS, EIGHTIETH ANNUAL MEETING

Education, 319; Resolutions, 321; Biological Products, 322; Proprietary Pharmaceuticals, 323; Public Relations, 324; Poultry Diseases, 327; Nutrition, 329; History, 330; Rabies, 330; Nomenclature of Diseases and Vital Statistics, 330; Parasitology, 331; Food Hygiene, 333; Brucellosis, 334; The Interstate Shipment of Livestock by Truck, 335; Veterinary Medicine and the War, 337; Diseases of Dairy Cattle, 337; Diseases of Swine, 337; Diseases of Sheep, 338; Diseases of Horses, 338; Diseases of Small Animals, 341; Diseases of Beef Cattle, 345; Joint Committee on Foods, 348; Sub-Committee on Veterinary Items, National Formulary Committee, 352; Research Council, 352; Representative to the American Association for the Advancement of Science, 352; Representative to the National Research Council, 354; Representative to the Division of Biology and Agriculture, National Research Council, 355; Representative to the Horse and Mule Association of America, 355.

## MISCELLANEOUS

R. A. V. C. Expands Its Scope, 274; Puerto Rico Veterinarians Organize, 278; Dr. Mark Welsh Accepts New Position, 278; Horse and Mule Population, 280; The Blood of the Dairy Cow, 280; Vitamin C in Potatoes, 296; Spoiling Sugar and Flour, 296; The Food Makers: Farm Animals, 296; The Veterinarian's Relationships, 318.	
<i>An' Related Topics</i> .....	xviii



# Journal of the American Veterinary Medical Association

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600 S. Michigan Ave., Chicago, Ill.

VOL. CIII

NOVEMBER 1943

NO. 800

## Veterinary Education in the Postwar World

WILLIAM A. HAGAN, D.V.M.

*Ithaca, N. Y.*

DURING the period of industrial prosperity which followed the last war and which ended in the crash of 1929, the veterinary colleges of this country had few students. During this time, the proprietary schools were forced to close and only the tax supported ones survived. Shortly after the end of this period and extending throughout the industrial depression which ended with the present war, the schools had all the students they could accommodate and were forced to turn away many others. This occurred in spite of the fact that all of the schools increased their entrance requirements in the early thirties. This situation was not limited to veterinary education; perhaps to a lesser degree, all universities and colleges had large registrations during the period of depression. It appeared that the many opportunities for jobs at high wages during the twenties lured most of the high school graduates into industry; the lack of such opportunities during the thirties encouraged them to attend college.

Those of us who are concerned with veterinary education are wondering whether the same phenomenon will be repeated in the next postwar period. If so, there undoubtedly will be a long time during which lack of students will retard further advancements in educational standards. It seems to me that after a short period of maladjustment after the present war, there is quite certain to be a rather prolonged

period of what we call prosperity; a period during which jobs will be plentiful, and the wheels of industry will be turning at a fast pace. This war has been, and will continue to be, much more destructive than any previous war. The continents of Europe and Asia will be devastated and despoiled. Cities, factories, homes, and public services will have to be rebuilt. Food will have to be provided for hungry populations until they can again establish their agriculture and their livestock industries. The period of toil and sweat will continue long after the end of blood and tears. Everything will be needed.

For this reconstruction, America will have to play a leading rôle. We will have to supply many of the tools and materials of peace. We will have to continue to supply much of the food. We will have to supply the breeding stock from which the livestock industries can be rebuilt. Our rôle as the arsenal of democracy will be replaced by another, that of the storehouse of reconstruction. Not only must we supply much for rebuilding the rest of the world, but we will have to do a great deal to meet our own needs. Our living standards have deteriorated greatly during the last year but it is only the beginning. Prewar stocks of consumer goods have softened the situation so far, but these are rapidly dwindling and we shall face a tremendous backlog of needs of our own by the time that peace again settles upon us. There are those who say that we shall never again attain the high standard of living that we had reached when the present war began. I do not be-

Presented before the war conference and eightieth annual meeting of the American Veterinary Medical Association, St. Louis, Mo., Aug. 25-26, 1943, Dean, New York State Veterinary College, Cornell University, Ithaca, N. Y.

lieve this. Our people, with their determination and native ingenuity, will not rest content until previous and even higher levels are reached. As soon as this war is over and talents are turned in this direction, I have confidence that we will rapidly recover what we have lost and reach even a higher level through the agency of the many wartime discoveries, the fruits of which cannot at present be made available to civilians.

Even though we pass through a long period of great business activity after this war, I do not believe that the veterinary schools will suffer so greatly from lack of students as they did after the last war. There may not be as many applicants as there have been in recent years, but I believe there will be more than enough to fill our classes as full as they should be filled. This optimistic view is based upon the difference in the attitude of the public toward the veterinary profession after the last war and now. Twenty years ago the general public was quite ignorant of the importance of the profession, and the opportunities in it for young men of ability. The veterinarian was popularly regarded as a "horse doctor," a useful person but one having little use of a scientific education and hardly a cultured gentleman fit to associate with the better educated portion of the citizenry. The horse was disappearing, as everyone knew, his place being taken by machinery. The public generally believed that the "horse doctor" would go with him as a matter of course.

These ideas have largely disappeared since the previous postwar decade. The tuberculosis eradication campaign brought great publicity to the profession. The development of magnificently equipped small animal hospitals made a profound impression on our urban populations. The group of young men graduated by our veterinary schools during the last two decades, with better basic and professional educations, and with higher ideals, has had a favorable effect upon livestock men. The inclusion of veterinarians with physicians and dentists in the Procurement and Assignment program of the War Manpower Commission, and of veterinary students with medical and dental students in the Army Specialized Training Program has not escaped the attention of the public. The general public

is now aware of the fact that veterinary medicine is a necessary and honorable profession requiring scientific knowledge and skill, and that its practitioners are men of good breeding and training and not the racing touts, jockeys, and stable men that constituted some of the "horse doctors" of an earlier age.

The raising of entrance standards of the veterinary schools to include one year of preveterinary collegiate work also has had much to do with raising the profession in the esteem of the public. Apparently, the harder the path to a goal is made the more it is desired and sought after. It was amazing to see how rapidly it became generally known, in the early thirties, that veterinary schools were hard to get into, and how this suddenly made them very desirable goals.

After the war, I believe that the time will be at hand for all veterinary schools to improve still further their educational standards. I am sure the public is ready for such a step, that it would further enhance the prestige of the profession, and that it would not be impossible to persuade our states to provide the additional financial support which such a step would require. Advancing educational standards in this country has included farmers and other owners of livestock. Many farm boys are going to college, farm bureaus and other governmental agencies are active in disseminating information to our rural populations and the superstitions and hokus-pocus about diseases of farm animals is disappearing. These people are interested in having accurate diagnoses of the diseases of their livestock, and they want to prevent disease, so far as possible, rather than to attempt cures after damage has been done. This means that a more exacting clientele is developing. It means that veterinarians will have to "deliver the goods" if they are to survive and prosper. It means, in short, that veterinarians are going to have to be more proficient in their work and sounder in their knowledge than in the past. And this means closer selection of students in the first place, and better education for them in the second place, if the profession is to measure up to the standards that will be expected of it.

Improvement of educational standards can take place in two directions, namely, by improving our teaching methods, and

by increasing the time devoted to the professional education.

#### TEACHING METHODS

Those who are acquainted with our teaching institutions know that in all of them we are still far behind the better medical schools in our teaching methods. This is due in part to the fact that we do not have, and probably never can expect to have, even in the best supported of our veterinary schools, the small instructor-student ratio that exists in the medical schools. The nearer we can approach this ideal the better teaching we shall be able to do. But some of the veterinary schools of today are accepting classes that are far too large for their staffs and facilities, and some of the largest classes are to be found in some of the weaker schools. Good mass instruction can be given in few fields and least of all in those in which the students must develop manual skill as well as mental training. Mass instruction means, inevitably, "learning from the book," and while book learning is an indispensable part of medical education, it is not a satisfactory substitute for learning from actual contact with patients, and for learning by doing things instead of reading about them. The bedside method of teaching long ago supplanted purely book and lecture teaching in medical schools. It is apparent that progress in veterinary schools is somewhat lagging in this respect.

In the postwar period when the veterinarians who are now in the Army Veterinary Corps return to civil life there will be no serious shortage of men in the profession. There will be no need then, so far as I can see, for schools to cram into their classrooms all the students that they will hold. It will be much better for the livestock industry, as well as for the profession itself, if all schools would reduce their student bodies until their numbers bear a definite ratio to the number of available instructors. I do not undertake now to say what this ratio should be, but it is smaller than now obtains in any of our schools. Our country is more in need of good veterinarians than it is of larger numbers of half trained ones.

Another serious fault in our teaching methods is that we still fail, in large measure, to carry over into our clinical teaching much of the basic scientific knowledge

which the student spends most of his first two years in acquiring. The result of this is that we turn out too many graduates who do not know how to apply their fundamental sciences and these are rapidly forgotten, the individual then being not much better than a quack. It is disheartening to see how often this occurs even in members of very recent classes. It is discouraging to note how often some of these men mishandle cases, or give bad advice to owners of live stock, or make ridiculous diagnoses because of their ignorance. More and more as the educational standards of farm people rise, clients are able to detect these blunders and the prestige of the man and his profession suffers accordingly.

The principal cause of this teaching fault is that our clinical instructors, with exceptions of course, are men who have faulty educational backgrounds themselves. Many of them were educated in the old schools in which the basic sciences were subordinated to practical work; in which the science of veterinary medicine played second fiddle to the art of veterinary medicine. Very few of our clinical teachers have had graduate work, and few have had more training in the basic sciences than the scanty amount that was given in our veterinary courses a few years ago. Under such circumstances, we can hardly expect anything more than we are getting. Such men are apt to defend the empirical methods that they use and teach by saying that it is not practical to employ the techniques of chemistry, physiology, endocrinology, bacteriology, and hematology for diagnosis and control of treatment in veterinary medicine. There is something to be said for this view, of course, inasmuch as economic considerations play a much greater part in the practice of veterinary medicine than in human medicine. If we must accept this verdict, however, it means that veterinary medicine must forever resign itself to continue on an unscientific basis. I do not think we have to accept this verdict. We must do away with a lot of empiricism which exists today, and we can do that only by using the precise methods which medical science has provided and is providing to enable accurate diagnoses to be made and treatment administered.

Even though it be true that practitioners often may be unable to apply many special techniques which enable more accurate di-



agnoses to be made and treatments to be more accurately controlled, I believe we are failing in our teaching mission when we do not teach our students what these methods are capable of contributing. Small clinical staffs and large numbers of students are difficulties, of course, but we should strive, as I already have indicated, to readjust this ratio to improve the situation.

During the latter part of their education, medical students who are grounded in their fundamental sciences are required to begin applying these methods in the clinical wards. All patients are thoroughly studied by the students under the direction of clinical instructors and internes, and complete case histories are written. These include not only the histories obtained from the patients, but the results of the physical examinations and laboratory tests that are done. In obscure cases, urinalyses, blood counts, blood chemistries, functional tests, x-rays, bacteriological examinations, biopsy examinations and numerous other tests are routinely conducted even though the clinical history does not suggest that all of these examinations are necessary. Surprises often are discovered in these elaborate examinations, some of the apparently unnecessary tests revealing unsuspected facts that lead finally to the true diagnosis which would not have been reached otherwise. Also, when treatment is undertaken, the course is followed in many cases by tests which indicate whether it is accomplishing what is intended, whether the dosage is adequate, inadequate, or too great, an example being the following of the blood level of the sulfonamide drugs. Even if it is impossible or impracticable for practitioners of veterinary medicine to carry out such detailed examinations on their cases, a fact which I do not think we should admit, students in colleges will benefit immensely by being required, as part of their professional training, to learn how they are done by applying them to patients. Not only would the students benefit, but the clinical instructors undoubtedly would learn much more about their cases, make more accurate diagnoses, and our fund of information about animal diseases would be greatly augmented.

#### THE EXTENDED COURSE

I have already said that I believe the time will be at hand shortly after the end

of the war to further increase our educational requirements in veterinary medicine. This matter has been under consideration by most of the veterinary faculties for some years but, except for the School of Veterinary Medicine of the University of Pennsylvania, none has taken action on it.

I believe that when extension of the veterinary educational program is considered, faculties should weigh the merits of requiring an additional year of preparatory work against those of an additional year in the professional program. Both are capable of improving the quality of our graduates, but I am inclined to favor the second scheme as likely to yield the better returns.

It will be noted that I am assuming that no faculty will wish, in the near future, to extend the basic training in veterinary medicine beyond five years, or one more year than is required at present. This would demand six years of college work, which might be compressed into four by the elimination of long vacation periods, and this should be sufficient for the training of practitioners. Those who wish to specialize in any of the fields encompassed by veterinary medicine in order to become teachers or research workers should look forward to graduate work leading to the Ph.D. degree. This would require one or possibly two more years.

A six-year professional program is not suggested. It seems to me that the choice lies between the two-year preprofessional followed by a four-year, professional program on the one hand, and a one-year preprofessional followed by a five-year professional program on the other. Veterinary students certainly should have not less than one year of a broad general education at the collegiate level upon which to build their professional educations. Before admission to the professional school, it is important that they should have demonstrated their ability to handle college work and particularly such work as chemistry, English and zoölogy. The ten years of experience we have had in selective admissions has demonstrated the fact clearly that the improvement in scholastic ability which we have obtained in our student bodies has been due, in part, to their better basic educations but to a much greater degree to the opportunity that we have had to choose tried and capable students, and to largely eliminate in the beginning those who failed



to demonstrate their scholastic competence in their preveterinary collegiate year.

#### A SECOND PREVETERINARY COLLEGIATE YEAR

Present graduates in veterinary medicine seldom receive as much training in mathematics, chemistry, physics, genetics, and nutrition as they should have to enable them to hold their own with the better trained agriculturalists. In addition, they should have work in economics, history, and other social sciences to enable them to take their places among educated people in general. It must be borne in mind that the curriculums of veterinary schools do not confer general educations; that they must, of necessity, be limited to very narrow fields. In general, the public is not able to judge accurately of the intelligence and intellectual attainments in this specialized field and has recourse to its own standards of a more general nature. Professional men who cannot give a fairly good account of themselves among educated people are bound to suffer on this account, and the profession as a whole suffers likewise.

If the decision is made to recast the preveterinary training and place it on a two-year basis, many of the subjects mentioned could be included, and others could perhaps be absorbed into the professional curriculum in place of the few general topics that the latter now contains. This plan, however, would not lessen the present congestion in the professional program nor allow for pointing the teaching more directly toward the patient than is now the case. For these reasons, I believe that a straight five year professional program, based upon one year of general college preparation is preferable to two years of general preparation followed by four years of professional work.

#### A FIVE-YEAR VETERINARY CURRICULUM

Students in our veterinary colleges find their time pretty completely occupied. During the eight terms at Cornell, for example, veterinary students are required to complete 149 semester hours of work. Students of arts and sciences in the same university are required to complete only 120 hours for the B.S. or A.B. degree; therefore, it may be said that the veterinary students are required to complete the equivalent of five years of work in four, or of ten terms in eight. Under such conditions, it is unthinkable

to add additional courses or give more time to present courses. But we need to include additional work in nutrition, and expanding fields, such as that of the virus diseases and parasitology. These subjects call for more thorough training than can be given in the number of hours which were allotted to bacteriology and parasitology some years ago when these fields were much less complicated and information much scantier than now. I believe that some time could be saved in present curriculums by reducing the time spent in detailed dissections in anatomy which are soon forgotten and seldom used anyway. Examination of the curriculums of all leading medical schools indicate that dissecting time has been reduced markedly, in many cases the reduction amounting to more than 50 per cent. in the last twenty-five years. Some veterinary schools have reduced their dissecting hours considerably, but others continue on the old basis. In any event, with drastic reductions, the time saved would not provide the opportunity of introducing into the teaching program all of the subjects that should be incorporated.

During our present four-year curriculums, the student is given practically no time to work independently. He must go from class to class on a fixed schedule. He must prepare fixed class room assignments almost until the day of graduation. Until the bitter end, he must continue to cram his mind with new facts from his textbooks and is given little time to learn how to apply these facts to patients. True, he attends clinics but in these he is largely an observer. He seldom finds it possible to follow closely the developmental history of individual cases because he must rush off to other classes and may not get back to the cases until a day or two later. He may not be able to attend the autopsy of a fatal case which he has followed during its sojourn in the hospital. This type of teaching once prevailed in all medical schools but it has been replaced by another type which I believe will have to be introduced into veterinary schools if we are to train better clinicians.

The case method of clinical teaching, which the medical student gets during the latter part of his medical course and his year of internship, is a reversal of the type of teaching which he has received during the earlier years of his training. During

the earlier years, he has studied books and in the laboratory he has studied methods and techniques of the sciences upon which medicine is based. Now he studies patients, applying all of the techniques, methods, and diagnostic procedures which he has learned previously. During this period, he is expected to spend virtually his full time in following the course of the patients which pass through the clinics. He is required to attend few classes. He is free to spend as much time as is necessary, or as he wishes, in acquiring skill in making diagnoses and in applying remedial measures, under the direction of competent teachers. He makes blood counts, chemical determinations, bacteriological examinations, and any other procedures that are likely to throw light on the nature of the ailment or give indication of the progress of the treatment applied. In case of death, he makes the autopsy and carries out significant post-mortem examinations. He writes up the entire history of the patient and his treatment. He reports anatomical findings, *ante mortem* and *postmortem*. He attends clinico-pathological conferences at frequent intervals in which students present their cases, and hear discussions about them from the various clinical instructors and members of the department of pathology who have had anything to do with them.

Successful operation of this plan requires a low student-instructor ratio, for independent work upon patients requires careful supervision. It demands instructors who are freed from practically all classroom teaching. For its operation in veterinary schools, this is the principal catch; the schools do not have enough men to operate in this way. But if this manner of teaching is capable of much better results than our present way, we must seek to move in this direction by persuading fiscal authorities that larger investments in the educational process will yield correspondingly greater returns.

Some will say that all of this is visionary and impracticable. I will reply by saying that no progress has ever been made in any field except when it has been preceded by thinking which, at the time, seems visionary. If we are to work toward making our profession a better one for those who are members of it, and for those whom it serves, we must know where we are going.

We must choose the star to which we hitch our wagon in order that a straight course can be laid. Even though progress may be slow and halting, it should be in the right direction. For veterinary medicine, the same principles apply as in medicine. Fortunately for us, the experience in medical education is available, and we should utilize it in setting our own course.

### R. A. V. C. Expands Its Scope

In having the direction of the remount service under its command, the Royal Army Veterinary Corps has been a step ahead of the Veterinary Corps of our military organization. We, however, have had the prestige of directing the food-inspection service which, in Britain, was in other hands. It is, therefore, not without considerable emotion that we learn through the *Veterinary Record* that the R.A.V.C., under its new director—Brigadier George Alexander Kelly, M.R.C.V.S.—has taken over the duties of meat inspection for the British forces in the Middle East, a signal, no doubt, of further advance in the utilization of veterinary science for the benefit of the fighting forces.

Inasmuch as successful warfare is but the mobilization of knowledge and skill and putting it to work where needed, troops assembled in large groups for training or operating under diversified ecologic situations in far-flung places are in greater need of veterinary officers than ever before. American generals operating abroad ask for them. British generals in the Middle East will not be disappointed. There is much trained veterinarians can do for troop welfare—outside and inside of the mess hall.

A book of 871 pages, entitled *The Principles of Economics, Eighth Edition* defines economics as "A study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisite of wellbeing." Agriculture gets a few paragraphs, animals none, and this is called a science—a sum of knowledge.

# Keeping Livestock Healthy

Hon. GEORGE W. GILLIE

*Washington, D. C.*

No COUNTRY having a sound livestock industry has ever suffered famine. In the United States our cattle, hogs and sheep, now numbering about a quarter billion, provide a great reservoir of sustenance that we can draw on as need arises. They are a great balance wheel in the food situation. Man is not privileged to peer far into the future, but my judgment leads me to advise that the nation plan its affairs in a manner that will mean minimum disturbance of this efficient, well-balanced, living mechanism that has served us so well in the past.

Now that an adequate supply of meat means so much to the successful conduct of the war and in strengthening the home front, I have welcomed the opportunity to discuss briefly certain points that concern producers and consumers alike. I want especially to go below the surface aspects of the situation and explore with you some fields of thought and action that seldom meet the eye.

## FOREIGN LIVESTOCK POLICY IMPORTANT

The quantity of meat this country is able to produce and the price of every pound are influenced by the soundness of our foreign livestock policy. In simple terms, this policy concerns the health of our animals, their ability to reproduce freely, and the quantity and quality of their products. Although taking meat as a convenient example, my remarks include dairy and poultry products as well, and of course wool and leather—in fact, everything we get from domestic animals. For a moment, let us turn back the pages of history to the year 1863—eighty years ago. That year the nations of the world organized an International Veterinary Congress. It was a scientific body—essentially a league of nations designed for fighting animal diseases. Before that time, it was hazardous for any country to accumulate livestock in large numbers, that is, enough to serve as a dependable

balance wheel for the total food supply. Animal plagues almost invariably appeared to destroy the surplus. And not only did the meat supply suffer, but disease attacked the work stock, thereby interfering with the planting, tillage, and harvesting of crops. To be sure, there had been earlier veterinary studies, some dating back to the dawn of history. But many of the old beliefs were little more than folklore. That first veterinary congress and those that followed it have brought together and organized the world's best knowledge on keeping livestock healthy. One point on which participants soon reached common accord was the value of international quarantines.

Any nation free of a dangerous disease is fully warranted, for its own protection, in excluding possible means by which infection may enter and spread. This policy, having a sound, scientific basis, now protects the food animals of the United States—meaning your meat and milk supply—from animal plagues existing in foreign lands. It is a safeguard, for instance, against the virus of foot-and-mouth disease that otherwise might be introduced from any of fifty countries and jurisdictions.

## QUARANTINE NOT UNFRIENDLY

I want to emphasize that a quarantine of that kind neither carries nor implies any trace of unneighborly or unfriendly feeling. There have been proposals, from time to time, that the United States relax or modify its quarantine in various ways—for instance, to quarantine only part of a country, to try to kill the virus of foot-and-mouth disease by freezing the meat, or to station inspectors abroad and give them discretionary authority to certify meat, which appears to be safe, for shipment to the United States.

Research scientists and veterinarians of the department of agriculture, which administers the quarantine, have made a thorough study of such proposals. Especially have they sought to determine, on the basis of research abroad, what may be done safely and what would entail too much

Broadcast July 31, 1943, over NBC, Farm and Home Hour.

Member (Indiana) of the House of Representatives, United States Congress.



risk. They concluded that canned and other well-processed meats may be safely admitted, and this is being done. But any weakening of the quarantine on fresh or frozen meat would be too hazardous to warrant the risk. As a veterinarian, I have been through two outbreaks of foot-and-mouth disease. The malignant form of this malady is terrible. Few persons, without first-hand knowledge of its destructive, virulent nature comprehend the heavy toll it takes among herds and flocks and the pitiable condition in which it leaves its victims. Our country cannot afford to flirt with expedients that leave our vast reservoir of healthy animals wide open to invasion by a devastating virus of that kind. And besides foot-and-mouth disease, there are still other foreign plagues—rinderpest, surra, and others—all of which are now excluded by protective quarantines for which we should be thankful. I ask your support of my efforts to sustain this sound and safe policy.

Meanwhile, from those nations of the world that have maintained high standards of animal health, the United States has been receiving both food animals and breeding stock. Our open-door policy of admitting purebred animals duty free has, in my judgment, been a master stroke of good livestock husbandry plus wise statesmanship. As I have said on a previous occasion to my colleagues in Congress, we are now literally holding in trust for the rest of the world the best bloodlines now existent for the reestablishment of disease-free herds and flocks in other countries when the war is over. We hold a great responsibility in safeguarding this valuable seed stock.

#### OUR DOMESTIC POLICY

Now let us see how well we are conducting our internal affairs with livestock—not so much the familiar operations of farm and ranch as the kind of foundation they have. In other words, how fully can we depend on continued large production of meat food products, especially in times of emergency? My answer is one of assurance. I have examined the foundations and find them substantial. The structure of our livestock industry—meaning our domestic animals and facilities for raising them—rests on a large group of strong organizations, among which are strong interlocking ties. Arrange-

ments for this privilege of addressing you were made by the Indiana Veterinary Medical Association. In every state there is a similar body. These state organizations in turn are affiliated with a national one, the American Veterinary Medical Association.

There are other types of state and national livestock organizations. Some deal with the recording of pedigrees and breed improvement; others seek improved economic conditions; others are primarily scientific; and still others, with a flair for showmanship, sponsor fairs and expositions. A few have specialized fields as, for example, the betterment of shipping facilities and humane treatment of animals. Each organized group is well established with a definite job to do and a record for doing it. And, to give further permanence and stability to the structure, each state has its agricultural college and experiment station, likewise veterinary and livestock boards. Practically all of these bodies have close official relations with the Bureau of Animal Industry of the United States Department of Agriculture at Washington. Several other federal bureaus and agencies also deal with livestock matters. That, in brief, is a general sketch of the foundation on which the superstructure of livestock raising rests. It is a good foundation, cemented by close and effective coöperation.

As a sidelight on the stability and economic strength of the nation's livestock industry, it is noteworthy that the Bureau of Animal Industry is the oldest bureau of the United States Department of Agriculture and the only one which still keeps its original name. Moreover, during the fifty-nine years of its existence, the Bureau of Animal Industry has had only three chiefs—Salmon, Melvin, and Mohler\*—a most unusual circumstance in the conduct of public affairs. The stability is all the more striking in view of the turbulent nature of some of the Bureau's activities. Several national campaigns against animal diseases were considerably in advance of public opinion in certain areas, with the result that lawsuits, violence, and even bloodshed sometimes marked the progressive application of veterinary science. In more recent years, I am glad to say, public opinion has been

\*The fourth chief, A. W. Miller, took office Aug. 1, 1943.



highly receptive to veterinary and other scientific aids.

#### CONGRESS THE ARCHITECT OF LIVESTOCK STRUCTURE

In a sense, the Congress, lending an attentive ear to the legislative needs of agriculture and stock raising, has served as consulting architect for the upbuilding of these resources. There has been need for a great deal of research—to find improved systems of breeding, to develop more useful types of animals, to test new feeds, to reduce losses, to save labor, and to enhance quality. There has been need likewise for control services such as federal meat inspection and supervision of stockyards.

Acting in the public interest, Congress has supplied needs of the kind outlined. Livestock production responded accordingly. In some cases, the benefits have been measurable with a high degree of precision. Through dairy-herd improvement fostered by research and extension work, production of milk and butterfat per cow has taken a distinct upward trend. The same is true of egg yields in poultry flocks. Modern types of animals mature much earlier than those raised at the turn of the century. Good steers now are ready for market within about two years, instead of three or four. Improved livestock also yield a greater quantity of finished product for the feed utilized.

#### RESEARCH SUPERSEDES OLD TRADITIONS

In scientific research, there has been more devotion to achievement than fanfare of the results. Entanglements of old traditions and smokescreens of skepticism have sometimes impeded application of the new knowledge, but in spite of obstacles, progress has been continuous. Take, for instance, the painstaking research on worm parasites of hogs and the development of the now familiar swine sanitation system. The recommendation of the scientists to scrub and disinfect farrowing houses, to wash the sow before the birth of her pigs, and to take her out of a muddy hog lot and put her in clean pasture—all these things at first seemed, to practical folks, like putting pigs in the parlor. But now this sanitary system of raising pigs is the rule rather than the exception; and it is responsible, to a large extent, for the ability

of farmers to raise so many pigs with fewer losses.

#### KNOWLEDGE WIDELY DISPERSED

A definite help to the progress this nation has made in curbing the disease enemies of livestock has been its constructive information policy. Research workers and veterinarians share their knowledge readily with other professional groups, with livestock owners, and the public. New findings appear not merely in professional journals. Any citizen can learn of them from government and state bulletins, newspapers, the farm press, and radio broadcasts.

Within recent years much of the material has been tuned to a dominant note or theme—"Keeping Livestock Healthy." It's a good theme for helping us keep in step with the tempo of wartime food production. It's the title of the 1942 Yearbook of Agriculture, a volume so helpful that Congress is printing a second edition this year. My veterinary associates have chosen the same theme for radio talks of this series, in which I have the honor and privilege to be your first speaker. It's a theme that means more roasts in the oven; more chickens in the pot. Let me illustrate. About 1917, when the national campaign against bovine tuberculosis began, about 50,000 cattle a year failed to pass federal meat inspection. Instead of qualifying for human food, those animals went for fertilizer, grease, or tankage. By contrast, the number failing to pass inspection in recent years has been less than 2,500—in other words, an annual saving of about 47,500 cattle, equivalent to some 24 million pounds of dressed beef. Thus, we see how veterinary foresight a quarter of a century ago, plus good organization and courageous effort, are now paying food dividends in a hungry world. Bovine tuberculosis is just one of several disease-enemies now practically conquered. Southern cattle ticks are another, sheep scab is another, and pullorum disease is another. Progress against still other important maladies is a matter of public record.

#### IN CONCLUSION

True, the attainment of the greater yields that animal health makes possible has encountered some wartime difficulties, involving scarcities of feed and labor in particular. But, the output of livestock

products is still going on efficiently and helping to set new records of production. When we fail to find, in our local shops, the meats we would like to have, let us regard the inconvenience as temporary; for that meat is probably in some field kitchen in a distant battle zone. All in all, it is gratifying to know that our millions of animals are productive allies on our side.

At times, the confusion that comes from trial-and-error methods of solving human problems is perplexing. I trust, therefore; that I have conveyed to you some of my confidence in the manner in which a great and complex enterprise—the livestock industry—conducts its affairs in direct, orderly fashion, guided by the findings of science. I envision this industry as a bulwark of strength for the future and a beacon for getting worth-while things done in ways that best serve human needs.

### Puerto Rico Veterinarians Organize

Under the name "Sociedad Insular de Medicos Veterinarios," graduate veterinarians have organized an association in Puerto Rico registered according to the laws of that territory. There are about 20 graduate veterinarians in the island and so far 16 have joined the society. The board of directors elected for 1943-44 are: Dr. Carlos M. Muniz (O.S.U. '35), *president*; Dr. Edward E. Maas (K.C.V.C. '17), *vice-president*; Dr. O. A. Lopez Pacheco Texas A. & M. '42), *secretary-treasurer*; Dr. Alfonso Rivera (U.S.C.V.S. '12), and Dr. Francisco Menendez Guillot (U.P. '18), *members of the Board*.

Membership in Sociedad Insular de Medicos Veterinarios is limited to graduates of AVMA accredited veterinary colleges. Application made by the officers of the association for affiliation with the AVMA as a constituent association has been approved by the Executive Board and a delegate and alternate to the House of Representatives will be appointed.

**Veterinary Scholarships Sponsored.**—Because of an acute shortage of veterinarians in Puerto Rico, one of the first major activities of the veterinary society was to obtain government support for two veterinary scholarships annually. Appointments to these will be made by a scholarship committee and the students sent to schools in the United States for training.

### Dr. Mark Welsh Accepts New Position

State veterinarian of Maryland since 1935, Dr. Mark Welsh recently assumed his new duties as director of the Veterinary Division of Lederle Laboratories, Inc., with headquarters at Pearl River, N. Y.

Dr. Welsh, a native of Michigan, received his D.V.M. degree at Michigan State Col-



Dr. Mark Welsh

lege in 1919. From 1919 to 1930, he was assistant professor of bacteriology and pathology at the University of Maryland during which time he completed work for his masters degree which was granted by that institution in 1926. From 1930 to 1935, he was employed as an inspector by the Maryland State Livestock Sanitary Board and was appointed state veterinarian in the latter year. Dr. Welsh also was professor of veterinary science in the Department of Animal Pathology and Veterinary Science of the Maryland State College of Agriculture. For several years, he served as secretary-treasurer of the U. S. Livestock Sanitary Association and as secretary of the Maryland State Veterinary Medical Association. He is a member of the Inter-Association Council on Animal Disease and Production and of the AVMA Committee on Public Relations.

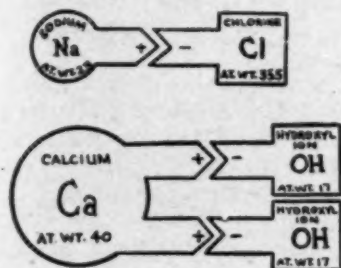
Bacterial warfare is described as a fear without foundation by the *Journal of the American Medical Association*. Air-borne bacteria bombs would be ineffective in spreading infections. In the case of at least one disease of animals—foot-and-mouth disease—a sneaking attack might, however, be effective.

# Visualized Veterinary Chemistry

A. H. BRYAN, V.M.D.,M.A.

Baltimore, Maryland

WHILE chemistry is one of the most popular subjects in the veterinary college curriculum, it is also one of the most difficult for the average student to master. Valence, ionization, the different types of reactions, molecular structure, formulas and equations are difficult for most students to comprehend and correctly interpret. Visualization is one of the modern answers to these



difficulties. Together give the molecular weight 58.5. The deep combined colors represent a strong reaction.

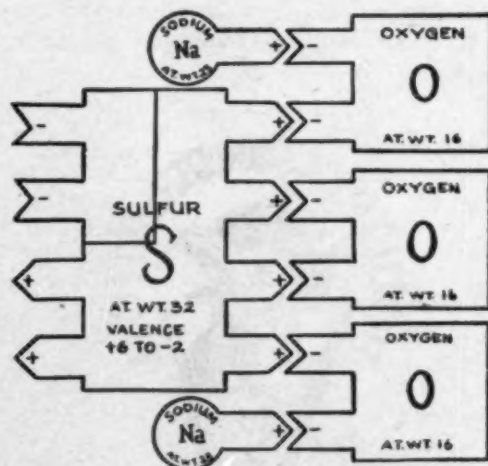
To complete the formula for phosphoric acid, the phosphate radical block with three left arms will require three right armed circular Hydrogen blocks to complete it. The molecular weight is again arrived at by adding the combined weights indicated on the blocks together. It is noted to be an unstable compound, because the combined colors show unequal shades of red and blue.

To construct an equation it is merely necessary to pick out the blocks necessary to form the first half of the equation formula. For example,  $\text{HCl}$  plus  $\text{Ca}(\text{OH})_2$  is formed by fitting the required blocks together with plus sign in between. However, because calcium has a valence of two with two right arms, two  $\text{HCl}$  formulas will be required to match the two left arms of the calcium radical. An arrow is placed after these two formulas, and by switching the blocks from one side to the other side of the arrow and

difficulties. Granted a United States patent recently, the "Bryan Valence Blocks" are devices designed to simplify the mastery of many of the fundamentals of chemistry.

The blocks now being manufactured comprise some 200 pieces representing elements and radicals which fit together like jig saws to form formulas and equations. They are colored various shades of red and blue representing the different strengths of litmus reactions, metal, or nonmetal. The blocks comprise geometric figures, squares, triangles and rectangles of different sizes, which represent positive and negative ions, mono-, di-, tri-, tetra-, and polyvalent elements and radicals. The blocks are labeled with name, chemical symbol, and atomic or molecular weight.

To construct a formula or equation, merely fit the appropriate blocks together and read off the results. For example the one armed "Na" fits the "Cl" block to form  $\text{NaCl}$ , common salt or sodium chloride. The atomic weights 23 plus 35.5 added to-



reversing them, we get the resultant formulas  $\text{CaCl}_2$  plus  $2\text{H}_2\text{O}$ —completing the equation.

For veterinarians who like organic chem-

Now Major, V.C., on duty as Station Veterinarian, Ft. Eustis, Va.



istry, "white ovals" represent organic radicals such as  $\text{CH}_3$ ,  $\text{C}_2\text{H}_5$ ,  $\text{C}_6\text{H}_5$ , etc., and are right armed. To form methyl alcohol merely connect the  $\text{CH}_3$  to the OH block to form  $\text{CH}_3\text{OH}$ .

Triangular blocks represent element and radicals with one or more positive valence, the valence again being indicated by the number of pointed arms such as Cu, Hg, Fe. They represent the "ous" and "ic" compounds. Example:  $\text{FeCl}_2$  and  $\text{FeCl}_3$  respectively are formed by fitting two or three Cl blocks to the Fe block.

Rectangles represent both negative and positive elements and radicals, these have two colors, and both negative and positive arms corresponding to the various valences such as S, N, C, As, P, etc. To form sulfur dioxide, merely add two oxygen blocks to the positive arms of the sulfur block to form  $\text{SO}_2$  disregarding the other arms because sulfur has more than one valence.

The two hundred odd blocks may be fitted together to form any of the reactions commonly taught in general inorganic chemistry with immediate visualization and interpretation of results. These blocks were demonstrated at the recent meeting of the American Chemical Society in Baltimore, Maryland. Two educational games "Chemical dominoes" and "Checkers" may be played with them by veterinarians who remember or want to remember chemistry fundamentals.



## Horse and Mule Population

In a circular entitled "Needed—Good Young Horses and Mules" Wayne Dinmore, secretary of the Horse and Mule Association of America, releases figures on the animals of various ages in each one of the states. The totals for the whole country are:

	TOTAL	2 YR. AND UP	1 TO 2 YR.	UNDER 1 YR.
Horses ..	9,678,000	8,786,000	491,000	401,000
Mules ...	3,712,000	3,484,000	113,000	115,000

The five states having the largest number of horses are Iowa, 658,000; Missouri, 519,000; Nebraska, 458,000; Illinois, 453,000.

As to mules, the largest numbers are found in: Texas, 455,000; Mississippi, 353,000; Alabama, 294,000; Arkansas, 253,000; Kentucky, 214,000.

These figures are pronounced "rock bottom," or the level below which the United States cannot sink without impairing crop and livestock production.

## The Blood of the Dairy Cow

A lactating dairy cow weighing 1,000 lb. has about 80 lb. of blood of which, owing to the speed of its flow, 200 lb. pass through the udder every hour. To secrete milk, therefore, the cow uses more than four times her body weight of blood every twenty-four hours. The speed of the blood from udder to heart, according to Turner, is fifty-two seconds.

The blood carries hormones and vitamins to the milk. Neither is synthesized nor originates in the mammary glands. Carotene and lactoflavine derived from the blood account for the color of the milk. Milk cells, however, are not of blood origin. They are products of the mammary lymphatic system.

The utilization of a cow's blood within the udder is, obviously, the most marvelous process of food production, and, likewise, the most important.

Judging from the theses of the press, the American farmer is truly the marvel of all men. He produces more and more from less and less.



# Publication Rules of the AVMA

## Synonyms and Everyday Errors

(Continued)

**Accommodation** (space, convenience).—*Accommodation*, in the sense of a place being physically spacious and fit, is a word too little used in writing about animals. A farm that can *accommodate* 60 milk cows is one equipped with the necessary apparatus, utensils, trucks, milk house, pastures, and everything used in dairy farming, as well as the housing, just as a hotel can *accommodate* a certain number of guests and a college so many students and provide their needs.

**Acquire and contract**.—An animal *contracts* a disease and *acquires* an immunity. It also *acquires* a habit.

**Activity and function** are not exactly exchangeable. Whereas both express the state or quality of a physical or mental process, the too liberal use of *activity* leaves no word to express superadded force or thought. By using *function* for normal processes, *activity* becomes convenient in setting apart a more vigorous movement. The *activity* of a volcano refers to an eruption, not to the column of smoke it constantly emits. The simile is applicable to organs, cells, tissues, mental processes, organisms, or groups of organisms (men, animals, microbes):

The *function* of the parotid is to secrete saliva.

The *activity* of the parotid is extraordinary during mastication.

The *function* of the association is to advance veterinary medicine.

The wartime *activity* of the AVMA is notable.

Whatever synonymy one gives to these two words in the general language, there is good reason for setting them apart in the language of medicine.

**Administer**, in the sense of giving a dose of medicine, is corrupt usage. A physician *administers* treatment, but he *gives* drugs. A priest *administers* to the dying just as physicians *administer* to the sick. Drinking the potion, in either case, is but a part of the ceremony. *Administer* applied to dosing is like saying, "Joe Louis *administered* a left hook to the chin." The *administration* of medicine is a solecism of the traditional type that has too long escaped the blue pencil of the critic.

**Affliction and affection**.—*Affliction* as applied to disease signifies a grave malady or agony

as distinguished from an *affection* which clearly signifies a benign morbidity. See also, ailment (*f, g*).

**Ailment, malady, disease**, and the following group test the writer's ability to choose the right word. While all of these names refer to ill health (the *raison d'être* of medicine), the course, severity, suddenness, locale, cause, and other factors associated with disease govern their proper placement to a considerable extent in medical writing:

a) *ailment*.—A more or less durable pathological disorder that is not necessarily grave.

b) *malady*.—A difficult word to orient in veterinary writing. The word seems appropriate for any indisposition of dubious nature affecting one or more animals, simultaneously or concurrently, as in the *cause of the malady is not known, the malady was widespread, the malady is not fatal, it is a benign malady*.

c) *illness*.—A more or less sudden attack of disease as distinguished from *ailment* (*q.v.*).

d) *infirmity*.—A chronic disability, mainly of locomotion.

e) *morbidity*.—The anatomy of a pathological state.

f) *affection*.—Disorder of an organ, as *affection of the liver, blood affection, affected kidney*.

g) *affliction*.—A disease causing marked distress.

h) *infection*.—The sum total of a microbial invasion. This word is commonly misused in referring to the infecting organisms.

i) *disease*.—Any state of ill health is *disease*. For strictly functional troubles, *disorder* seems the more appropriate, as in *a mental disorder, disorder of the endocrine system, disorder of metabolism*.

Other words of this category are *epizootic*, *enzootic*, *panzootic*, for animals, and *epidemic*, *endemic*, and *pandemic*, for human diseases.

j) *outbreak*.—A sudden visitation of a given disease in a herd or community as distinguished from *epizootic* or *enzootic* or *panzootic* which may or may not be of sudden occurrence.

The preceding list of words may be conven-

ient to draw upon to avoid objectionable repetitions in writing long monographs where any one of them has to be used frequently.

**Almost and nearly.**—These two words are not synonymous. The careful writer uses *almost* in referring to a spot, place, or line, and *nearly* for intangible objectives:

He *almost* made a touchdown and *nearly* won the game.

He *nearly* struck out, then drove the ball *almost* out of the lot.

A man *nearly* (not *almost*) drowns, and a dog *nearly* (not *almost*) dies from a disease. Here is one of the many places a writer can display knowledge of language.

**Allow and permit.**—*Allow* is to grant or yield; *permit* is to authorize.

**Alternative** can be used correctly only in speaking of two persons, animals, or things. Think of *alternative* as a choice between two.

Wrong: Among its four alkaloids, there is but one *alternative*.

Right: Between the two alkaloids, there is no *alternative*.

**Although.**—*See*, when.

**Amino.**—Whether the name of the compounds containing the radical  $NH_2$  should be a hyphenated prefix or not is controversial. Both open and joined styles appear in good literature and in the dictionaries. The AVMA uses the open form—amino acid—but preference for the solidified form—aminoacid—would seem appropriate. *Aminoacid* awaits approval as in aminoacetic, aminopirin, aminopyrina. To Webster, *amino* is a noun, not a noun prefix.

Since *acid* is also substantive, the AVMA uses the hyphenated word—amino-acid—only as an adjective, e. g., *amino-acid* privation.

**Among and between** may be pointed out as being misused words: *among* to be used where more than two objects are spoken of and *between*, as the etymon suggests, for two objects only. In veterinary material it is well to obey this rule. Certainly, if more than three units are concerned, *between* does not apply. Whereas, "An agreement was reached *between* the three nations" (Webster) is passable, "Treaties *between* all the nations of the world" is ruled out. Better say:

Divide the amount *among* (not *between*) a hundred chickens.

Divide the dose *between* (not *among*) the two mares.

In the sentences, both *among* and *between* are intended to direct that the dose is to be evenly divided. To be kept in mind is that *between* as an adverb or noun is seldom needed in our field but that *among* has many other uses than those pointed out: *amid*, *amidst*, *mingling with*, *in the midst of*.

**Analgesia and anesthesia.**—Since *analgesia* means loss of sensibility to pain, and *anesthesia* loss of sensation, the two words without a

modifier are synonymous in fact. A volar or epidural anesthetic causes both loss of sensibility to pain and loss of sensation in the region blocked, just as does an anesthetic dose of inhaled chloroform. When sensibility vanishes so does perceptible sensation. The effect on reflexes concerns motion only. When the word *anesthesia* was coined at the Massachusetts General Hospital in 1846 by Dr. Oliver Wendell Holmes, it was clearly intended to define a state of general loss of sensation. There was then no known method of inducing local loss of sensibility to pain and thus to inspire the coinage of the word *analgesia*. It would, therefore, seem gracious to the memory of a famous man and reasonable to use *anesthesia* for general loss of sensation and *analgesia* for the local phenomenon. Thus, the surgical use of chloroform, ether, and chloral would be called *anesthesia*, and the various nerve blockings, *analgesia*. The new childbirth procedure of the obstetrician (human) has been named *continuous caudal analgesia*, but among veterinarians the same operation still remains *epidural anesthesia*, contrary to modern usage.

**Anamnesis.**—*See*, history.

**And** is commonly used incorrectly. Better to end the sentence and start anew when introducing a new thought. To be correct, *and* can join only words, phrases, and clauses closely related to the subject of the sentence, whether the sentence is simple or compound. Diversion from this rule leads to chaotic construction and objectionable elongations lacking descriptive value. Many manuscripts contain dreadful examples of the misuse of *and*, among which are using this conjunction for *to*, *or*, and *nor*:

Wrong: Come over *and* see my new office.

Right: Come over *to* see my new office.

Wrong: A science like physics *and* chemistry . . .

Right: A science like physics *or* chemistry . . .

The following is a sample of misused *and* in joining clauses:

I arrived at the farm and the cattle were seriously ill,

is wrong because the arrival and the illness are unrelated, whereas the sentence,

The owner was a poor man and his herd was badly stricken,

is good usage because both thoughts contained express the distress the writer wants to stress. Though all this seems too simple to tell intelligent readers, grammarians are in accord as to the difficulty of keeping *and* in its proper berth.

**Anesthesia.**—*See*, analgesia.

(To be continued)

# SURGERY & OBSTETRICS

AND PROBLEMS OF BREEDING

## Retained Afterbirth in Dairy Cattle

S. L. STEWART, D.V.S.

Olathe, Kansas

RETAINED AFTERBIRTH is an annoying problem to the owner of cows and veterinarians. Most owners recognize the value of veterinary service in the treatment of retained afterbirth, but some trust to luck or their herdsmen remove them and treat the cows—in some cases with disastrous results to the health of the cow.

Retained afterbirth is common where a vitamin or mineral deficiency exists. Where brucellosis is prevalent, white scours also in calves is common. In such herds, udder troubles frequently occur. Retained afterbirth is more or less rare during June, July, August, and September. This is true where cows run on nutritious green grass and sunshine is plentiful. But, too often, when the scientific solution of nutritional problems is known, treatment lags, and this is true of retained afterbirth in dairy cows.

Retained afterbirth is the sequel of an intrauterine abnormality or deficiency established before or possibly during pregnancy, becoming clinically manifested after the fetus is born, alive or dead.

When parturition ends in a normal cow, and the umbilical cord ruptures, the common attraction between the maternal and placental cotyledons ceases to exist. Most of the blood contained within the placental vessels escapes from the ruptured umbilical veins. The normal placental hemorrhage causes a collapse of the chorionic villi and allows them to fall away from the crypts of the maternal cotyledons. A complete separation of the fetal membranes from the uterus and passing of the entire mass of afterbirth ensues within a few hours after parturition. Retention is necessarily de-

pendent upon an abnormal condition which was present during all, or at least a part of gestation. Such a condition cannot develop after the expulsion of the fetus. As the retained afterbirth is then a mass of dead material, a toxemia of varied degree develops. Often it causes a serious endometritis, and in some cases of the structure of the whole genital tract is involved. It is not only good surgery, but common sense to remove the retained afterbirth before serious absorption takes place or other complications arise. Frequently, it causes mastitis. A recent observation was that of a 2-year-old, a heavy milker, which developed a severe mastitis in both right quarters six months after calving. After being treated for several days without much result, she dropped a dead and putrifying calf of a 120-day pregnancy. A few days later, the mastitis began to abate and she then made a complete recovery.

**Causes.**—It now seems that the causes of retained afterbirth can be summed up in: (1) nutritional deficiency; (2) failing to remove all of the afterbirth. (3) flushing the uterus before or after the afterbirth is removed; (4) brucellosis; and (5) accidental abortions and premature births.

**Dietary Prevention.**—Reports indicate that in different sections of the country many dairy herds are deficient in minerals and vitamins. Herds deficient in these suffer from retained afterbirths. A complete diet of acidic or acid foods may cause abortion, premature births, and afterbirth retentions. But, in that event, future retentions can be prevented to a large extent by feeding a balanced ration or by treating the deficient soil.

Nutritional problems in farm animals point to a relationship between certain minerals and vitamins. T. S. Sutton of the Ohio

Presented before the Section on Surgery and Obstetrics at the seventy-ninth annual meeting of the American Veterinary Medical Association, Chicago, Aug. 24-27, 1942.



Agricultural Experiment Station has stated that a lack of vitamin A may cause fetal death or weak calves and retained afterbirth. The amount of flesh a cow carries at calving time has nothing to do with afterbirth retention. Fat as well as lean cows seem to be equally afflicted. The relation of the mineral matters and the vitamins within the body, however, has much to do with retentions.

*Home Treatment.*—Some dairymen do not call a veterinarian to remove afterbirths. While some are quite handy, others do more damage than a veterinarian can repair. In certain instances, the cotyledons are torn or removed with the afterbirth. Tearing the cotyledons loose does not necessarily kill the cow, but it may set up trouble from which cows may not survive. The survivor that passes the stage of toxemia will lose flesh for weeks and will not regain normal lactation during that milking period. Some uterine capsules cause an acute inflammation of the vagina and uterus leading to sterility. The endometrium is sensitive and easily damaged with disinfectants. Such capsules should not be used.

*Treatment.*—The treatment should be preventive and curative. Prevention can be accomplished to a considerable extent by proper feeding, grazing good pasture grasses, and judicious breeding. Curative treatment should follow the same lines as that for any other infected area.

Removal of the membranes should be attempted twenty-four to thirty-six hours after parturition. A careful examination is made to determine the state of the myometrium. This should be noticed carefully as it indicates more than anything else the probable severity of the retention, and the inflammation or paresis present. If the membranes can be easily detached without causing severe pain or unusual damage to the maternal cotyledons, the removal should be accomplished at that time, because it is only after removal that the underlying cause can be treated with any certainty of preserving the health of the cow and of preventing the recurrence at the next parturition.

It will be found that some of the placenta nearest the cervix has already become detached, or is easily detached. Toward the anterior end of the horn, the cotyledons are enlarged, engorged, and firm, and the chorionic tufts can be detached only with difficulty in many cases and in some of the

extreme cases cannot be detached without danger of damaging the maternal cotyledons and the cow to the extent of opening up avenues for new areas of infection, and thus lead to future sterility. In a few cases, metritis is so severe and rapid that when the afterbirth is drawn upon, the maternal cotyledons will come away in one mass. In all such cases, if the cow survives, granular tissue forms on the endometrium and in most cases sterility follows, and after many attempts to cure it, the cow will be sent to slaughter.

With the cow properly prepared, the operator, with a rubber sleeve on each arm, grasps the protruding membranes with the right hand, applies traction, and with a twist brings the uterus and entire mass gradually back. This holds the uterus in the right position to detach the membranes. If the afterbirth membranes are not strong enough to retract the cervix well back into the posterior part of the pelvic cavity, a 20-inch uterine forceps may be used by fastening them deeply into the right wall of the cervix and then slowly retract it by traction on the forceps and at the same time lift the uterus with the arm. The most anterior end of the afterbirth can then be reached and detached. With the left arm inserted into the right horn, or the right arm into the left horn, the afterbirth is removed. During the process of removing the afterbirth, the cotyledons should first be squeezed with a slow firm pressure to relieve the congestion and reduce them in size. That has the tendency to release the chorionic villi. Then, while still holding the cotyledon, the thumb is brought into play rolling the placental cotyledon away from the maternal one. When detached, all will come away in a mass; but if some pieces do remain, each piece should be removed.

After the membranes have all been removed, skill and judgment are again needed in the after treatment. During the operation, the uterine contractions should increase until by the time the membranes are detached and removed, the uterus will be contracted so closely to the arm that the work is somewhat retarded. Whether the uterus contracts or not, one or more uterine capsules should be deposited deeply within the uterus before the uterine forceps are released. If the uterus is in a state of paresis and a decided contraction does not take place during the process of removing the



afterbirth, a 5-cc. dose of pituitary extract is indicated. It should be administered as soon as the afterbirth has been removed and repeated in six to eight hours if necessary. According to the breed and the size of a cow, a 5- to 15-cc. dose of metritis bacterin may be given every case as a precaution.

If the patient should exhibit unusual pain, or cotyledon hemorrhage persists during removal, the operation is stopped at once, and 2 to 4 uterine capsules deposited deeply in the uterus, and a dose of pituitary extract and metritis bacterin administered. This treatment is very essential as the uterine antiseptic probably assists in holding the propagation of some of the bacteria in check, to a certain degree prevents decomposition of the afterbirth and some of the odor, soothes the mucous membrane and relieves some of the pain and distress. The pituitary extract gives tone to the parietic uterine wall, causes decided contraction within a few minutes, assists materially in separating the afterbirth, and decidedly lessens the amount of uterine absorption which is of great importance in such cases. Twenty-four hours later, the afterbirth may be removed with safety. When it has all been removed and the uterus treated, and still the cow shows evidence of much pain by arching the back and profuse straining, it is advisable to reexamine the cow easily and reduce any invagination of either horn that may have occurred at the last end of the operation unnoticed at that time.

**Uterine Capsules.**—For uterine capsules, use a No. 13 gelatin capsule filled with boric acid with 1 dr. of tincture of iodine added for the ordinary cases. Where much fluid is present, it should be removed with the hand and No. 13 capsules filled with sodium bicarbonate are used for those in which the uterine fluid seems to burn the arm while removing the afterbirth. All the retained afterbirths are acid, but some are "scalding" hot acid and one, two or three capsules should be used. Boric acid and soda should not be used at the same time as they are chemically incompatible. While I advocate and use many boric acid capsules, I strongly recommend bicarbonate soda. It counteracts the acidity and burning sensations of the genital organs, which gives considerable relief almost instantly.

A famous French veterinary surgeon practiced spaying of bitches routinely as the cure for pyometra and endometritis.

## Horse Feeds and Lameness

Back in 1936, Mitchel of the Royal (Dick) Veterinary College pointed out the vitamin deficiencies of horse feeds in his studies of lameness. Even before the coming of vitamins into the feeding programs, wise animal physiologists pondering the tremendous metabolic mechanism of horses and the work they do have wondered what keeps them from falling apart, their skeleton from crumpling under their weight and their power in strength and speed, and just how they manage to live at all from the fuel eaten: oats, corn, hay, with smatterings of wheat bran.

Mitchel's analyses of these feeds reported as follows:

### Oats:

Vitamin A, none to poor.  
Vitamin D, none.  
Vitamin C, none to poor.  
Vitamin B<sub>1</sub> poor.  
B complex, poor.  
Vitamin E, poor.

### Yellow Corn:

Vitamin A, good.  
Vitamin C, none.  
Vitamin D, none to poor.  
Vitamin B<sub>1</sub>, good.  
Vitamin E, poor.  
Vitamin B<sub>2</sub>, poor.

### Clover and Alfalfa:

Vitamin A, good.  
Vitamin C, none to poor.  
Vitamin D, poor.  
Vitamin B<sub>1</sub>, not given.  
B complex, good.  
Vitamin E, rich.

Barley was found "none to poor" in A, C and B, D "none". Linseed was "good" in A, "poor" in B complex, wheat bran was "poor" in A, "none" in C, "good" in B<sub>1</sub>, "good" in B<sub>2</sub>.

One has but to couple these facts with the ever possible default of the Ca-P ratio to realize to what extent feeding is responsible for the bony vegetations that keep dogging horses through the years.

Ligating the vagina posterior to the cervix in panhysterectomy performed for any purpose in bitches (pyometra, metritis, dystocia) gave an even 100 recoveries in 125 cases described. The stump was touched up with actual cautery.—*Bul. Acad. Vet. de France, Nov. 1936.*

## Whipple's Operation for Prolapse of the Vagina in Bitches

AS A RULE, prolapse of the vagina in the bitch is partial, not an invagination involving the entire circumference. It is a protrusion of a tumefied part of the vaginal wall, superior, inferior, or lateral, generally crossing over the floor and involving the periurethral area. The injured wall swells and pushes through the vulva in the form of a pear-shaped lump of infiltrated and hypertrophied connective tissue that carries the meatus urinarius out when it protrudes. Examined, the meatus is found on the inferior face of the protruding enlargement. In cows and mares, this parturient or preparturient accident may be cystocele or enterocele. In the bitch, there is seldom any visceral displacement of that character, and it is seldom related to parturition or gestation, and commonly occurs in unbred bitches as well as in matrons (Whipple). In our observation, the accident follows copulation, sometimes in bitches forcibly detached from the male while "playing around." We have seen this accident follow the breeding of small bitches to large males.



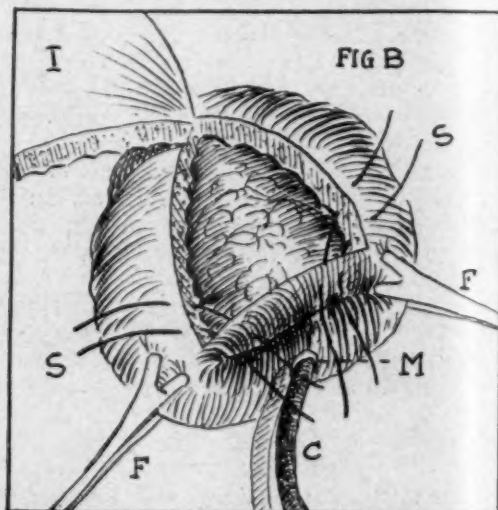
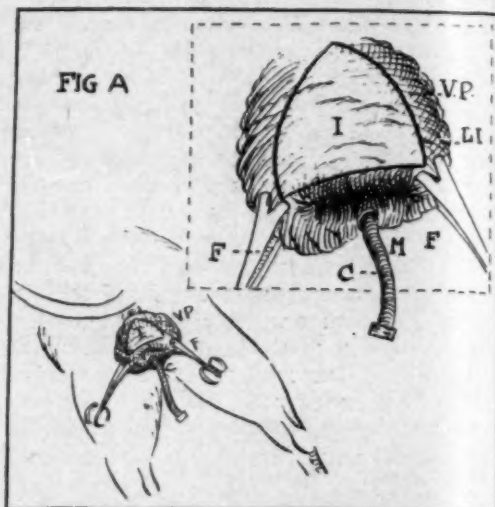
After Merrillat, 1906

Figure 1

The symptoms are typical. The bitch exhibits a reddish vulval protrusion that can be manually replaced, only, however, to protrude again at the first act of straining.

Figure 1 is from the photograph of a

typical case originating on the floor of the vagina. The meatus was located beneath at the lower commissure of the vulva. There was some infiltration above the vaginal opening seen in the protruding mass but



the main part of the mass was below. The case was of several weeks' duration. The mucous membrane was granular and badly damaged from exposure and frequent handling in attempts to replace and retain it. The bitch was weak, emaciated, toxemic—a

rather poor surgical risk, brought in to be sacrificed as incurable.

At the surgical clinic of the McKillip and Chicago veterinary colleges, these protrusions were tied off with multiple ligatures circumscribing the enlargement and taking care not to engage the urinary channel by keeping a metallic catheter in the urethral as a safeguard. The lump was then extirpated with scissors. Whipple improved

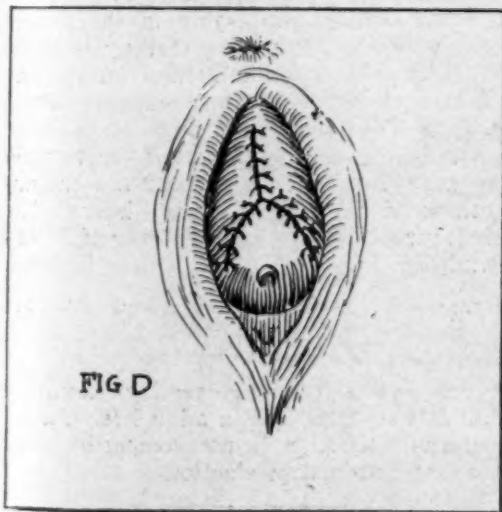
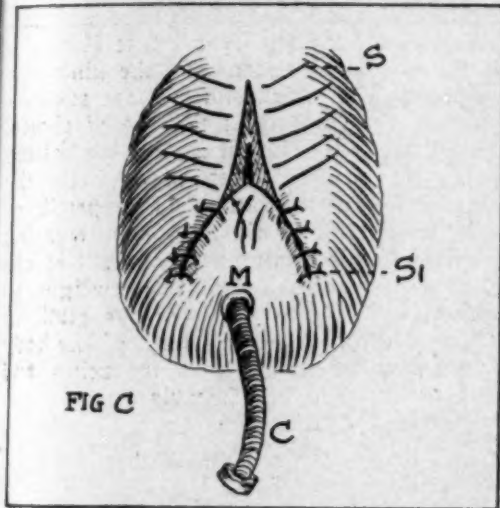
formed publicly for the first time at the University of Missouri Short Course for Veterinarians in January, 1933. The operation is simple, safe, and successful and is revived at this time as of obvious interest because a member of the Association, vaguely recalling having seen the operation described (somewhere), wanted to perform it on a valuable Boston Terrier bitch under his care. The protruding mass was the size of an English walnut, dark-red, marbled, and somewhat blemished from handling. Otherwise, it answered to the description given above. Success from the Whipple operation was complete.

The pictures depicting the technique of this plastic operation (fig. A, B, C, D) are quite graphic. A *sine qua non* is to keep a metallic catheter in the urethra to serve as a guide against severing it accidentally with the scalpel. There is no danger, as in the old operation, of tying it down with the sutures. The urethra now lies at a safe distance from the sutures.

The protrusion in the anesthetized bitch is drawn well out into the open and a beehive-shaped island is excised from the dorsal face (fig. B), whereupon the gap is brought together with catgut sutures religiously inserted one at a time at each angle of the wound, that is, sutures number 1 at each of the posterior angles, then sutures number 2 and so on until the condition shown in fig. C is produced. This done, the anterior angle is closed as indicated by the untied sutures of figure C. Figure D shows the operation complete. The enlargement, now reduced to practically nothing, is slipped back into the vagina where it will remain, never to be rejected again. Figure B is somewhat deceptive in showing too much substance around the island excised and the vaginal opening just above the catheter, whereas the vaginal opening was above the enlargement.

Once upon a time, urine was signaled in not-so-dumb lay circles as a wound healer. Now we use it in the form of urea—stimulant of regeneration.

A hint: "Only through a united front of the great farm organizations can the influence of farmers be made effective."—President C. C. Teague, National Council of Farmer Cooperatives.



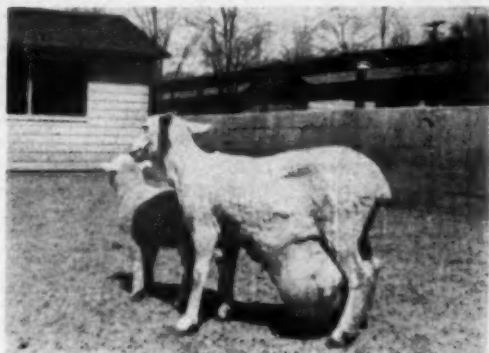
the technique by borrowing from a method practiced on the human female. The steps are illustrated herewith. The pictures were drawn for Dr. Whipple by E. A. Schmoker in 1932 and were reproduced in the *Haver-Glover Monthly Messenger*, April, 1933, issue with descriptive text. It was per-



### Prepubic Syndesmorhexis\* in a Ewe

On Jan. 15, 1943, a pregnant Columbia ewe developed a sagging of the abdomen resembling so-called rupture of the prepubic tendon in mares. On January 29, there were signs of approaching parturition. Dystocia being evident, delivery was accomplished by laying the ewe on her right side, pressing upon the abdomen, and applying direct traction on the lambs. Twin lambs, each weighing 9½ lb. were delivered, the first one dead and the second, vigorous, developed normally.

By the end of March, the ewe's abdomen became so pendulous that it dragged along



—Photo by the author

Fig. 1.—Postparturient view of a ewe suffering from detachment of the right half of the prepubic tendon and resulting effect on the abdominal wall and viscera.

the ground. Centesis was negative. The ewe remained in good general health and nursed her lamb. She was slaughtered April 30. The autopsy revealed that the right half of the prepubic tendon was detached from the pubis and the rectus abdominus muscle of the same side was contracted far forward. The left half was intact but shifted far to the left. The other abdominal muscles had separated along the linea alba from the pubic region to the xiphoid cartilage and thus formed the huge visceral hernia shown in the picture. The hernial sac contained practically all of the viscera, including a part of the liver. Ex-

\*Although *syndesmorhexis* pertains to ligament rather than tendon, it is more appropriate than *rupture*, since in this affliction of pregnant mammals there is detachment but no rupture. The trouble commonly described as *rupture of the prepubic tendon* is a detachment of a ligamentous structure from its osseous connection. This is an entity that will bear renaming.—Editor.

cept for their displacement, the viscera were normal. The peritoneal layer of the hernial sac was thickened to about 3/16 of an inch. The right half of the mamma was in full lactation, the left inactive.—Charles Riggs, D.V.M., School of Agriculture, Utah State Agricultural College, Ogden.

### Killing Solipeds\*

Under the title of "Euthanasia of Equines" Lieut. Colonel J. R. Hodgkins and coworkers of the Old War Horse Memorial at Cairo give directions for the killing of "equines" with magnesium sulfate and recommend the method as the one of choice. An 80 per cent solution made with boiling water is instilled (when cooled) into the jugular vein at the rate of 0.5 cc. per lb. of body weight up to 800 lb. An interesting formula for determining the weight of the Equidae is given: The body weight in pounds equals the square of the girth in inches multiplied by the length of the body from shoulder to buttocks in inches and divided by 300. The formula is:

$$\frac{G^2 \times L}{300} = \text{B.W. in lb.}$$

The instillation is best done in fountain-syringe fashion, preferably in the recumbent position. The act of falling is likely to dislodge the needle's insertion in the jugular. Loss of consciousness came about in from 30 to 90 seconds in 18 cases. Cornea reflexes were abolished in from 40 to 90 seconds. Dosage is important as some underdosed donkeys lived for two hours. The procedure is pronounced "merciful and painless."

\*From the Veterinary Record, July 10, 1943, p. 269.

The food a fetus receives lays down the foundation of its fate in adult life. Faulty maternal nutrition is not compatible with successful animal production.

Lameness in horses is practically synonymous with arthritis, with detachment of interosseous attachments, and that in turn with structural weakness of the bones. Horse feeds are deficient in vitamins A, D and C. But, as Mister Twain said of the weather, nothing much is done about it.

# CLINICAL DATA

Not to be forgotten in stepping up the poundage of protective food for man, is stepping up the poundage of protective feed for animals. Animals can't give what they do not get.

The bacterial flora of children in communities where the drinking water contains flourine was found to be remarkably low by workers at the University of Michigan School of Medicine.—*Science News Letter*.

Oil of rose geranium, consisting largely of citronellol in doses of from 1 to 25 cc., removed 100 per cent of 46 ascarids from 10 dogs, 97 per cent of 400 hookworms from 12 dogs and 40 per cent of 708 whipworms from 7 dogs.—*Abstract, Exper. Sta. Rec., Aug. 1943, p. 254*.

Caffeine-containing plants have been used in widely separated parts of the world since prehistoric times. Coffee, tea, and cocoa are but three of many plants containing that popular stimulant. Others are yaupon (cassine), guarana, and yoco.

The methylene blue test has merit in determining the sanitary condition of milk but it does not differentiate between harmful and beneficial bacteria which the sample contains. It has value in selecting milk for cheese.—*Abstract, Exper. Sta. Rec., Aug. 1943, p. 248*.

The use of small doses of phenothiazine can be recommended as the most efficient treatment for haemonchosis of sheep. However, the method of preventing both nodular worms and other parasitic diseases by the winter or spring treatment of adult sheep must have priority as a fundamental protection.—*From Canad. J. Comp. Med., August, 1943*.

Outbreaks of hog cholera have occurred in nearly every state in recent years, but effective controls prevent any from developing into major proportions.—*Science News Letter*.

The average longevity of the marten (*Martes americana* and *Martes caurina*) in captivity is about ten years. The low rate of reproductivity is attributed to lack of interest by fur farmers in this excellent fur bearer.—*From the Fur Journal*.

Ammonium sulfamate is described by United States Bureau of Plant Industry as an economical drug for destroying poisonous weeds: poison ivy, chokecherry, dewberries, ragweed, Russian thistle, Canada thistle, and other injurious plants. It is announced as being non-poisonous for animals and other plants.

## Phenothiazine in Human Medicine

Blood studies in 24 human patients treated with phenothiazine as an anthelmintic showed the occurrence of a decrease of 1,000,000 red cells per cubic millimeter in 3 cases and a decrease of 10 per cent in hemoglobin in 9 cases, a trace of albumin in the urine in 6 cases, a pronounced amount of albumin in 1, cylindroids in 2, and hyaline and cellular casts in 1. Two of the 24 patients had nausea and vomiting. Of 44 patients treated for intestinal parasites with phenothiazine, only 3 could be pronounced clinically cured. Two of these had pinworms and the other amebic dysentery. It was regarded neither anthelmintic nor amebicide in the patients studied and is capable of causing toxic reaction in human subjects. [Z. Bercovitz, M.D., R. C. Page, M.D., and E. J. de Beer, M.D.: *Phenothiazine: Experimental and Clinical Study of Toxicity and Anthelmintic Value*. J.A.M.A., 122, (Aug. 7, 1943): 1006-1007.]

# Green's Modified Canine Distemper Virus Vaccine: A Clinical Study of Its Efficacy

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A SATISFACTORY method for the artificial immunization of dogs against distemper has long been sought. Numerous systems of management, diet, drug treatment, and biological products have been used as prophylactic and curative agents, but the results have been varied. Since distemper is infectious, its control by the use of biological products has received the greatest attention. However, little progress was made until after Laidlaw and Dunkin<sup>1</sup> in 1926 confirmed the observations of Carré,<sup>2</sup> who, as early as 1905, presented experimental evidence indicating that canine distemper is caused by a virus. Although vaccines were used prior to 1926, most distemper vaccines and serums were prepared from cultures of *Brucella bronchiseptica* and various other bacterial organisms isolated from dogs affected with distemper. As soon as the causation of canine distemper by a virus was definitely established, vaccines prepared from tissues containing the specific virus of this disease rapidly came into general use. According to Laidlaw and Dunkin,<sup>3</sup> Puntoni<sup>4</sup> (Italy, 1923 and 1924) was the first to prepare and use tissue vaccine successfully to immunize dogs against distemper. This work attracted little attention, but it furnished a basis for the development of our modern tissue vaccines. Lockhart, Ray, and Barbee,<sup>5</sup> in 1925, were the first to prepare a viricidal anti-distemper serum. They also made an antigen. The two products, when injected simultaneously into dogs, immunized them. Laidlaw and Dunkin,<sup>3, 6</sup> in 1928, prepared a tissue vaccine with which they successfully immunized dogs against distemper and in 1931, they prepared a distemper antiserum. This marked the beginning of a new era in the control of canine distemper.

Various tissue vaccines have been developed and used. The virus present in the tissues usually is killed or attenuated with chemicals. In most instances, two or more doses are required to produce active immunity in an animal.

Green<sup>7</sup> recently announced a new method for attenuating or modifying the virus of canine distemper. He learned that after continuous successive serial passage of the virus through ferrets, it gradually became adapted to this species and lost its virulence for dogs. After the fifty-fourth successive serial passage through ferrets, the virus would no longer cause distemper in dogs, but it would produce active immunity for this disease. This change of species adaptation of distemper virus by serial passage through ferrets is thought to be similar to that of variola virus when it becomes adapted to the bovine species and is transformed into the vaccinia or varioloid virus, which is used to immunize human beings against smallpox. It was learned that a single dose of this modified distemper virus would produce active immunity in dogs. Another desirable feature of this vaccine is that the tissues containing the virus can be utilized in the dried form. Under favorable environmental conditions, the virus in dried tissues will retain its viability for three months or longer.

Green and Swale,<sup>8</sup> in 1939, reported the results of vaccination of 114 dogs with modified virus vaccine. Twenty-three of these dogs were 3 weeks of age, 76 were 4 to 16 weeks, 10 were about 8 months old, and 5 were adults. Severe reactions following inoculation were not observed, but most of the puppies showed definite but transient signs of illness characterized by partial loss of appetite, conjunctivitis, looseness of the bowel, and listlessness. These symptoms were manifested for only one or two days, after which the dogs appeared normal. In 1940, Green, Carlson, and Swale<sup>9</sup> reported the results of vaccination of 419 dogs with modified virus vaccine. These dogs were 12 weeks to 5 years old. The dose used in this instance was 2 cc. of 0.125 per cent suspension of the dried, virus-bearing tissue. Four deaths occurred in this series of dogs. The authors stated that no contraindications for vaccination were observed at the time of inoculation in the 4 dogs that

From the Division of Experimental Medicine, Mayo Foundation, Rochester, Minn.



died. The cause of death was not stated, but the authors expressed the opinion that death may have resulted from a combination of vaccination and unknown complications. Stader and Slaughenkaupt<sup>10</sup> recently reported the results of vaccination of 385 dogs with modified distemper virus vaccine. They used 2.5-, 5.0-, and 15.0-mg. doses of the dried tissue vaccine. Their data indicate that the larger doses gave best results. When 2.5 mg. were used, the reactions were more severe and prolonged than when the larger doses were used.

Because of the unusual opportunities available in our kennels for testing distemper vaccines and antisera, Dr. R. G. Green suggested the use of this new, modified, canine distemper virus vaccine under various conditions. We were interested in learning the most effective dose and its efficacy when used under conditions of previous and immediate exposure to natural infection. The virus of distemper is constantly present in our kennels and unless all susceptible dogs brought into them are immunized immediately, distemper will develop before three weeks have elapsed.

Four groups, comprising a total of 58 dogs, were used for these tests. The dogs were 5 weeks to 1 year old and all of them originated on farms. On arrival at the kennels, they were placed in individual cages and remained in them for the duration of the experiment. They were exercised in a common runway for about an hour daily. The environment, care, and diet were the same in all instances. After varying periods of exposure to natural distemper infections in our kennels, each dog was given a single dose of the modified distemper virus vaccine, hereafter referred to as Green's distemper tissue vaccine. The dose varied from 2.5 to 15.0 mg. of the dried vaccine. The results will be discussed in groups.

### RESULTS

*Group 1.*—There were 29 dogs in this group. They were 5 weeks to 11 months old. After one to three days of exposure to natural distemper infection, each was inoculated with 2.5 mg. of Green's distemper tissue vaccine.

Reactions characterized by rise of temperature, anorexia, and lassitude occurred in most of the animals about the fifth day following inoculation. These symptoms

were transient in 17 animals, but in 12 they were progressive and terminated in death. In 9 instances, death occurred eighteen or more days after vaccination. The symptoms noted were those of distemper complicated by secondary infection. The dogs did not receive any treatment other than the usual diet and care.

Examination of the histories of the dogs in this group revealed that 12 were 5 to 8 weeks old and quite small when vaccinated. Only 4 (33%) of these died, whereas 8 (47%) of the older and larger dogs succumbed after vaccination. This suggested a possible relation between the size of the animal and the dose of vaccine used. Larger quantities were used in the succeeding groups.

*Group 2.*—There were 12 dogs in this group. Their ages ranged from 4 to 12 months. After one to three days of exposure to natural distemper infections in our kennels, each was inoculated with 7.5 mg. of Green's distemper tissue vaccine.

Reactions similar to those in group 1 occurred. These reactions were transient in 9 animals; in the other 3, the reactions were progressive and terminated in death. One dog died on the tenth day following vaccination, the second one on the eighteenth day, and the third on the twentieth day. The symptoms in each instance were comparable to those noted in the dogs affected naturally with distemper.

The dogs in this group were comparable in size and age to 17 of the dogs in group 1. When 7.5 mg. of vaccine were used, distemper developed with fatal result subsequent to vaccination in only 25 per cent, whereas when 2.5 mg. of vaccine were used, 47 per cent died. This indicated that a still larger dose might be more efficacious.

*Group 3.*—There were 7 dogs in this group. They were 3 months old and were manifesting early symptoms of distemper when vaccinated. Each was inoculated with 7.5 mg. of Green's distemper tissue vaccine.

This experiment was conducted to learn whether vaccination with modified distemper virus of dogs, in which distemper was developing, would aggravate the disease or have an inhibiting effect on it. The data indicate that vaccination probably did not have any effect on the course of the disease. Only 1 dog survived; the other 6

died, 1 each on the second, fifth, seventh, eleventh, seventeenth, and thirty-first days following vaccination. More recent observations indicate that the doses of vaccine used may have been too small and that a larger one would have given a better result.

*Group 4.*—There were 10 dogs in this group. Their ages ranged from 6 weeks to 8 months. Each of these dogs was inoculated on the day of arrival at the kennels with 15 mg. of Green's distemper tissue vaccine. Following inoculation, they were maintained in the same environment as the foregoing groups. The care and diets were similar.

The results obtained in this group were excellent. In all of the animals, a slight rise of temperature and listlessness developed on the fifth to the seventh day. These reactions were slight and were manifested for only one or two days.

Similar results were obtained when 15 mg. of dried tissue vaccine were administered to each animal in a large series of privately owned dogs. But these dogs were not immediately and constantly exposed to natural distemper as were the experimental animals. In no instance was the reaction severe and fatalities did not occur.

### DISCUSSION

The foregoing data indicate that 2.5- and 7.5-mg. doses of the dried modified distemper virus vaccine will not protect the larger breeds of dogs adequately against natural canine distemper if exposure is immediate and severe. The dose of 7.5 mg. was more efficacious than the 2.5-mg. dose. Doses of 15 mg. gave adequate protection in all instances. This coincides with the observations of Stader and Slaughenkaupt. The virus in the vaccine is not virulent for dogs. It is possible that much larger doses may be given without causing untoward effects, but since 15 mg. seems adequate and a larger dose would increase the cost, there is no apparent reason for increasing the quantity used under normal conditions beyond 15 mg. for each dose. But it may be advisable in certain instances, as in dealing with a large dog or one that had been exposed before vaccination, to increase the dose to 20 mg. or more. I have injected 25 mg. into dogs and observed no untoward effects.

The foregoing observations indicate that

Green's distemper tissue vaccine containing canine distemper virus modified by successive serial passage through ferrets is safe to use on dogs of all ages. When 15 mg. or more of the dried vaccine are given in one dose, a satisfactory active immunity is produced. The immunity is rapidly established. Experimentally, good results were obtained when the vaccine was administered on the same day as the dogs were exposed to severe natural distemper infection and the exposure continued for thirty days following vaccination. The administration of 7.5 mg. of this tissue vaccine to dogs showing early symptoms of distemper did not inhibit development of the disease, but neither did it aggravate it.

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### The Sciences

The sciences are accumulations of knowledge ranked in orderly tiers for use to better advantage. Their uses are the stated arts, which science always strives to perfect as fast as knowledge and the training of human hands permit. The arts do not all have nor need the background of science; most of them acquire that advantage by gradual stages. Medicine, for example, was long a useful art before science came to its aid. The arts lead, the sciences follow in the primeval work of mankind, such as medicine, agriculture, animal production, and mechanics.

### Confined Boars Poor Surgical Risks

I find that boars on full feed and closely confined are poor castration risks. In my experience, better results may be expected if such surgical subjects are exercised at pasture or in a large lot and fed greens, alfalfa, and light grain rations.

On Aug. 5, 1943, I castrated a rather fat, aged boar, weighing around 550 lb., that had been confined with a bunch of sows on full feed. Besides carrying the incision as far forward as the roll of abdominal fat permitted, an island of skin between the incisions was removed to insure good drainage. The scrotal cavity was sprinkled freely with powdered sulfanilamide, dashed with a healing oil, and finished off with a tarlike fly repellent in and around the wound.

In fourteen days, this stag, already several days sick, had a temperature of 104.5 F., a large edematous swelling along the sheath, and a thickening of the whole scrotal region. An unfavorable prognosis was given.

Explored, the wound revealed deep recesses running in both anterior and posterior directions that were filling up with new tissue.

The immediate treatment consisted of stuffing sulfanilamide and sulfathiazole tablets as deeply as possible into the cavities and administering 550 gr. of powdered sulfanilamide orally. Beginning twenty-four hours later, the hog received 120 gr. twice a day for the next six days. Improvement was so marked on the second day that the patient was turned out to pasture. The owner reported complete recovery on August 28. Although not done in this case, I believe that sulfanilamide should be given to hogs three times a day in grave septicemic infections.—*John B. Bryant, Mount Vernon, Iowa.*

### A Singing K9

A toy female Fox Terrier, reviving from ether anesthesia during a subconscious period lasting two and a half minutes, sang the morning song of a White Leghorn with all the little pauses and modulations of this henhouse lyric.

The dog came to the present owner's home as an adult three years ago. There is no poultry around its present home and its

previous environment is not known. As the singing was unmistakable, we leave it to animal psychologists to draw the right conclusions. We have heard it said that animals may learn the voice of other species. Was this mimicry in a dog or evidence of a subconscious mind?—*V. C. Paulman, D.V.M., Puyallup, Wash.*

Comment.—As the tones of a dog's voice run from below to far above two C octaves, reproducing the high pitch of a hen's voice should not be amazing. Neither is the sustained tune mentioned surprising in view of the possible behavior of the neuromuscular mechanism of the glottis in a state of post-anesthesia depression.—Editor.

### Brucellosis: A Hard Wallop

G. R. D., Grand Forks, North Dakota, writes in *Hoard's Dairyman*: "Bang's disease hit me a hard wallop lately and, in hopes that this letter will help someone else from bad luck, I send it to you. I was free of that trouble about six years, and then I happened to hear of a herd of Holsteins and Guernseys south of town for sale. I went out there and picked out the best young Holstein he had and secured a trucker the next day to haul her. I inquired as to whether the cows were free from TB and Bang's disease and the answer was 'Yes.' I was not acquainted with the man and took his word for it. Over fifteen months later I found out that he lied as his herd was blood tested after I bought her and 12 out of 16 reacted and were condemned. . . ."

The result of this transaction for G. R. D. was an infected herd with abortions and condemnations galore. Tragic as the incident was to a farmer trying to maintain a "clean" herd, its importance lies in the nation-wide situation reflected.

Blood loss in surgery is never trivial. Rapid bleeding is the most serious because the arteries, veins, and heart contain but one fourth of the total volume of blood and need it all to function well.

Vitamin A deficiency as a factor in the etiology of urinary calculi in man was mentioned by medical writers in 1935.



# NUTRITION

MATERIAL FURNISHED BY THE COMMITTEE ON NUTRITION

## Recommendations for Prevention of Bloat in Cattle and Sheep

Bloating of cattle and sheep pastured on alfalfa or clover has seriously restricted the use of these valuable feeds. This paper is intended to aid livestock men in reducing the hazard of bloat in cattle and sheep pastured on legumes.

### GENERAL INFORMATION

1) *What is bloat?*—Bloat is the distention of the first stomach, the rumen, with gas. Large amounts of gas are normally formed in the rumen by fermentation of the feed. These fermentative processes are essential for the proper digestion of feed, especially roughage. Under certain feed conditions, however, this gas is not expelled by belching and, consequently, accumulates.

2) *Are all cattle and sheep subject to bloat?*—Yes, most, if not all, will bloat but some are more susceptible than others. In one experimental trial, 14 of 17 cows bloated. The three which did not bloat had recently freshened and ate very little. A few chronic bloaters will bloat on any feed. These chronic bloaters are abnormal individuals. The suggestions presented here for the prevention of bloat are applicable only to normal animals.

3) *What causes bloat?*—There are many theories to explain bloat. It is generally agreed, however, that in some way belching fails to occur normally on certain feeds such as green, immature legumes.

4) *Is not more gas formed from legume pasture than from other feeds?*—No, actual measurements show that the amount of gas formed in the rumen on hay and grain is just as great as the amount produced on green legumes. Some investigations have indicated that some of the toxic gases,

formed, providing the rumen is functioning always present in the rumen in very small amounts, are increased on legume pasture. Studies have indicated that far more gas can be expelled by belching than is ever normally.

5) *Then why do cattle, sheep, and other ruminants bloat on legume pasture and seldom on grasses?*—Experiments have shown that the rumen functions more normally on grasses; rumination and belching occur more regularly, for example. Attempts to explain this difference account for the many theories of bloat. Some believe that the formation of toxic gases interferes with normal activity of the rumen. Others believe that legumes form a more compact mass which prevents belching. Still others believe that gas can only be expelled when there is sufficient coarse material in the rumen to stimulate the reflex act of belching. Grasses have sharp, irritating surfaces which may facilitate belching.

6) *Does frost, dew, or rain have any influence on the incidence of bloat?*—Possibly, but the kind of feed and stage of its growth are more important. Experimentally, bloat has been produced under a wide range of weather conditions.

7) *Under what conditions does bloat most frequently occur?*—Bloat most often occurs on thick immature stands of alfalfa or clover. In one series of experiments involving 42 cases of bloat, no cow bloated until she had been on pasture for one and one-half hours. Of the 42 bloated cows, 27 bloated during the first three and one-half hours on pasture. Animals that have had all the hay they want for at least two days before being turned out to pasture are less liable to bloat. When the legume pasture contains many weeds or grasses, bloating does not usually occur until these coarser materials are pretty well cleaned up. Cows and sheep apparently prefer to eat considerable

Report No. 1, August, 1943; Committee on Animal Health, National Research Council.

Prepared by H. H. Cole, Chairman, subcommittee, R. S. Amadon, R. W. Dougherty, Dwight Espe, Carl G. Huffman, T. M. Olson, A. F. Schalk.

amounts of weeds and grasses, if available, with legumes. For these reasons, the mere fact that bloat does not occur the first day gives no assurance that the pasture is safe.

Cattle and sheep bloat most readily on legume pasture, but they may bloat on rape, cabbage leaves and other succulent crops. Furthermore, bloat may occur in dry-lot feeder cattle when the amount of concentrates exceeds the roughage. If this condition becomes chronic in a particular animal, two courses are open: market the animal or reduce the amount of concentrates.

#### PREVENTIVE MEASURES

1) *Mixtures of grasses with legumes cause much less bloat than legumes alone.*—This method is effective only when the proper proportion of grasses and legumes is maintained by good cultural and pasture management practices. Selective grazing may interfere with the effectiveness of this procedure. Very often, there is a tendency for either the grasses or the legumes to predominate. Practical tests show that bloat rarely occurs if grasses make up at least 50 per cent of the mixture. Severe bloating may occur on blue grass and white clover pastures if the white clover predominates and the pasture is lush.

2) *Unless supplemented, pure stands of alfalfa or clover should not be pastured until after they have reached the bloom stage.*—Mature legumes stimulate belching by which the cow rids herself of the gas as it forms. Because legumes vary in the rapidity of growth and in coarseness, it is difficult to make specific suggestions. A fine leafy growth is the most dangerous. Unless one uses a system of rotational pasturing, utilizing small fields, it may not be economical to pasture mature alfalfa.

3) *Supplemental feeding of hay in dry-lot at night will reduce the incidence of bloat on legume pasture.*—Experiments have been conducted on pastures proven to produce bloat. In one experiment, for example, 10 of 17 cows bloated when no hay was fed. The feeding of Sudan hay in dry-lot at night completely prevented bloat on this pasture the following day. Alfalfa hay was less effective but still of definite value. Other hays and straws will, no doubt, also prove of value. The effectiveness of a hay presumably depends upon two factors: It must be palatable in order that enough is eaten; and it must be fairly

coarse in order that normal ruminal activity is produced.

4) *Feeding hay in the pasture will also reduce the incidence of bloat.*—Frequently, it may be desirable to keep animals on pasture day and night. They should have a full feed of hay overnight before the first day of pasturing. Experiments have indicated that cows will consume sufficient Sudan hay to protect them from bloat on pastures proven to be of the bloat-producing type. Using this procedure, one is allowing the animals free choice between legume pasture and hay. Sudan hay, being very palatable, may be more effective than most other hays. It may seem extravagant to feed hay in the pasture. Later in the fall, however, it may be impossible to use certain excellent stands of legumes unless some such method is used.

5) *Grass pasture at night will largely eliminate bloat on legume pasture the next day.*—Experiments on this method have been limited to one grass—Sudan. Here again the effectiveness of the procedure will depend upon the type of grass pasture available. The animals must eat a considerable amount of grass to be protected. Therefore, this method should be used only on good grass pastures. Sudan pasture is not widely used. As this feed is so valuable in controlling bloat and because it also produces a large amount of good palatable pasture, livestock men might well consider a program of crop rotation including Sudan pasture. Its chief disadvantage is that it only grows well during hot weather. Furthermore, like other sorghums, it may produce prussic acid poisoning after a long drought or after frost in the fall.

6) *Other preventive measures.*—A host of suggestions, other than those enumerated above, have been made for prevention of bloat. Some may be sound, but the measures given above are the only ones which the Committee feels have been adequately proven by experiment or by practice.

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## Vitamin C in Potatoes

Potatoes are not particularly rich in vitamin C but are eaten in such quantities that they do furnish material amounts. Cooking, furthermore, reduces their ascorbic acid content of which whole boiled potatoes contain 5.4 mg. per Gm. If kept hot, 45 per cent of the ascorbic acid remains for twenty minutes and only 17 per cent for 135 minutes. At room temperature the loss is 80 per cent in 135 minutes.

The loss of vitamin C in mashed potatoes is great, two-thirds being lost in twenty minutes and in thirty minutes only 10 per cent remains. The practice in restaurants of keeping potatoes hot for long periods obviously increases the loss of this and other factors. Potatoes should be mashed just before eating whether for public or home use.—From *Nutrition Reviews*.

## Spoiling Sugar and Flour

One of the greatest fakes of food production is white sugar, the purest of all chemicals. It contains no vitamins whatsoever, although sugar cane from which it is made, is a fair source of thiamin, riboflavin, pantothenic acid, and niacin. White sugar represents civilization running in reverse gear. A near counterpart is the flaky wheat flour which war needs have caught up with and which is now said to be reinforced with some of these precious things the miller takes out to give talking points to salesmen.

## The Food Makers: Farm Animals

Nowhere in the general education of the masses has there been as much ignorance (or shall we say indifference, to be polite) as in regard to the part farm animals play (qualitatively) in the human dietary. From the school children up, little effort is made to fix into the human mind the simple and certainly not incomprehensible fact that the main rôle of the food-producing farm animal is to refine the protein of plants and break down their carbohydrate shell. It should not be beyond the grasp of the feeblest mind to understand that meat, milk, and eggs are but the finished products of the animal machine. The facts are known but not stressed, to the detriment of farm-animal prestige and to us who keep the machine in working order. Without animal food-making machines, the human mechanism would need some major overhauling to carry on "according to plans." Someone ought to tell the school teachers, so the children would know "how come" when they're turned loose. Why wait for a great war to come along before telling them?

The birth of veterinary education in the United States is in reality 1875, when the first viable veterinary college was established in New York City by Alexander Liautard, native of France, practitioner, writer, teacher and promoter of veterinary-medical societies, who accumulated considerable wealth in the United States but never became an American citizen.

It ought to be easy to step up poultry production. All there's to do is to raise chickens that live and lay. Many do neither.



# EDITORIAL

## Who Lagged, the Colleges or Their Graduates?

ILL-TIMED as it may seem to rail over matters not connected with the Armageddon of '43 it is never out of order to keep history straight. For instance, there comes a letter charging all of the ailments of the veterinary profession to the two-year schools which passed out in the 1890's, or nearly 50 years ago. To quote: "If they [whoever that means] had started out with longer courses everything would be all right and the profession would now be getting somewhere instead of being 'pushed around.'"

It seems necessary to repeat how young veterinary education is and how difficult it was at the start to coax students into the classrooms for undergraduate courses that overlapped the calendar year. Courses of a few months were approved at the beginning and for many years thereafter. Veterinary schools were 30 years old in France before the total number of students reached two score. William Dick, founder of the Royal (Dick) Veterinary College, (1823) graduated at the London school in four months and then proceeded to start the college of his own whence came the founders of veterinary education in North America.\* Medicine, law, theology, dentistry rowed upstream on the same curriculums: one-year, two-year, etc. No one with a sound mind would have started a veterinary school with a course longer than that of the contemporary professions. In addition to charting courses for veterinary medicine and planning its scope, there was an entirely new profession to start. As a French professor said of the struggling founders, "They almost gave up in despair because no one, except the blacksmiths, was

crazy enough to become a veterinary student." The colleges had nothing to offer but the prospect that a new profession might be born. Andrew Smith, who started the Ontario Veterinary College in 1862 managed to graduate two by 1866. A veterinary school in Philadelphia about that time, died aborning because no students came. So anyone who will trouble to take a look into the not-distant past will run into the amazing discouragements under which the founders of veterinary schools labored. The wonder is that they did not give it up as a bad guess. In this country, the facts were no more encouraging, as will be seen by the following table:

TABLE—The first American veterinary classes

College	Year founded	No. in first class	First graduation
Ontario .....	1862 ....	3 ....	1866
Montreal .....	1866 ....	3 ....	1869
American .....	1875 ....	16 ....	1876
Harvard .....	1882 ....	5 ....	1886
Chicago .....	1883 ....	3 ....	1884
Ohio State....	1885 ....	1 ....	1887
Unl. Penn....	1884 ....	10 ....	1887

This brings the number of charter matriculants up to the three-year-course decade—the 1890's. Yet, in the face of this discouraging patronage, the founders somehow started a profession, established a federal bureau of animal industry and research laboratory, formed state regulatory services and associations, kept a national association in running order, and succeeded in having the first licensure laws passed, all of which were flourishing in healthy adolescence at the close of the century, and going headlong to the four-year era, never at any time trailing very far behind the other branches of medicine. The American veterinarian has, therefore, no apologies to make or regrets to register about short

\*A Spanish school of veterinary medicine, still in existence, was founded in Mexico City in 1854 but we have no information as to the number of initial students enrolled.

term colleges. The less-than-a-year, the one-year, the two-year, the three-year, and the four-year veterinary schools of the entire world, like our own, succeeded one another in obedience to public understanding of their need, no faster, no slower.

So, better than to rail over the imaginary shortcomings of the past would be to look as far ahead *now* as the founders of veterinary education did *then*. The greatest mistakes men make, a great historian once said, arise from not knowing what they are talking about—myopia, the oculist would call it.

No, Doctor, it's you, not the educational system that has needed propping up through the years. The system marched forward faster than the wisdom (strategy) of its graduates.

### The Size of the Association's Journals

A serious shortage of manpower needed for the production of pulpwood has resulted in a corresponding shortage of paper—newsprint—for magazines and newspaper publication. For nearly a year, such paper has been under regulation and restriction by the government's War Production Board. The allotment for AVMA publications in 1943, for example, was based on and cannot exceed the amount used in 1942. The mills which supply the paper and the Association, as publishers, are required to see that our quota is not exceeded. Unless effective measures are adopted to aid and increase pulpwood production, it appears that 1944 paper consumption may be greatly curtailed.

For this reason, the Association cannot enlarge its two periodical publications, the *Journal of the American Veterinary Medical Association* and the *American Journal of Veterinary Research*, much as the editors would like to do so, in order to publish the ever increasing influx of excellent material. It now appears that, with occasional exceptions, both journals will be limited to 96 pages each instead of being expanded to 112, 128, and 144 pages as was the custom in the past when larger issues were needed.

In order to keep the J.A.V.M.A. departmentalized, the editors assume the added responsibility and work of covering the same ground with fewer ems; of rejecting too

lengthy articles or requesting their condensation; of avoiding space-hungry tables, too numerous photomicrographs, and unnecessary prolixity; and of cutting into phraseology that can be contracted without loss of value. This is a delicate subject to broach since it might be construed as an announcement that contributions are not welcome, when the direct opposite is true. It is, in fact, an invitation to contribute more and more in fewer and fewer words. On our part, steps have already been taken to conserve space in the monthly JOURNAL e.g., a closer spacing of type for articles and the use of small type wherever possible in certain sections. These practices detract somewhat from the appearance of the JOURNAL pages but are a necessary evil under the circumstances.

It is hoped that the foregoing will explain the situation to many readers who may have remarked the restricted size of our journals in recent months.

### Postwar Veterinary Education

One way to prevent the slump that overtook the veterinary schools following World War I, when enrollment fell to the lowest level since the 1880's, is to broaden the field of veterinary medicine, a chore too long postponed by the educational system. Lack of veterinary inspection of meat and milk almost everywhere in the United States is a blur on the affluence of the veterinary profession. The chief veterinarian of Illinois is begging for veterinarians to help carry out the bovine brucellosis program; lay inspectors are taking the places once filled by veterinarians in the BAI; the filthy practices in the local abattoirs have been left for lay legislators to point out and deplore; and the United States Public Health Service presses its standard milk ordinance upon municipalities with no ghost of a chance of obtaining enough properly trained veterinarians to carry out its provisions. But a tiny percentage of poultry comes to the dinner table inspected. The Food and Drug Administration goes the rounds of the poultry dressers enforcing funny regulations on marking the boxes of dressed chickens without getting a bit curious about what the boxes actually contain in food put into the pot. Three years ago, a Middle-west state passed a law on Grade A milk

which could not be enforced because there were not enough veterinarians to go around. And, so the story goes everywhere one points the finger. "What's the matter with the veterinary profession?" is often asked but seldom answered. One answer, of which we become daily more conscious, is that our schools must not be allowed to become depopulated, but must educate more and more well-trained veterinary graduates to do the work which is waiting for them, but will not wait forever.

### Vaccinate Them Is the Trick

T. J. Frizzel (*Hoard's Dairyman*, Oct. 10, 1943) comes to the defense of promiscuous vaccination against bovine brucellosis and blames "state boards of animal diseases" for not telling the farmers, and we quote, about "an almost 100 per cent preventive measure." All there's to do, if we understand the author, is to blast Bang's disease to eternity with the hypodermic syringe. Nothing is said about the long researches of the BAI veterinarians who discovered "the shot", nor about the presumption that their recommendations as to its use may have a certain amount of wisdom.

The eradication of disease from American livestock, successful as it has been, is truly an uphill pull, always with the stockmen blocking the scientific and only way to achieve the objective. A corporal's guard of disease fighters have always had to maneuver around to outflank the opponents of veterinary science and its proper application in every campaign. Were it not for these fighters we'd have an animal industry about as wonderful as have the natives of the Upper Nile country. "Science be damned" is not the right way to prevent that.

### The Longevity of Veterinary Journals

THE *Journal of the American Veterinary Medical Association* is second to the oldest English language veterinary journal. The oldest is the *Veterinary Journal*, London, established in 1875. Ours, under the name *American Veterinary Review*, was established in 1877, or two years later. It celebrated its sixty-sixth birthday, Jan. 1, 1943.

The *Veterinary Record*, England, is beginning its fifty-fifth year, *Veterinary Medicine*, Chicago, its thirty-eighth year, *Cornell Veterinarian*, Ithaca, its thirty-first year, and the *North American Veterinarian*, Evanston, Ill., its twenty-fourth year. Not excluding the excellent periodicals published in Canada, Australia, India, and South Africa, the foregoing may be pointed out as six of the influential veterinary magazines, among English readers, of 1943.

Speaking only of existing journals, the following birthyears are worth recalling:

\**Recueil de Médecine Vétérinaire*, France: 1824

*Munchener Tierärztliche Wochenschrift*, Germany: 1857

*Veterinary Journal*, England: 1875

*Jour. American Vet. Med. Association*, United States: 1877

More or less viable veterinary journals were published in Germanic countries as early as 1788; in Switzerland since 1816; in England since 1828; and in the United States since 1851. Many of them have come and gone since veterinary schools were founded. France had veterinary colleges sixty-three years before it could support a veterinary journal, Germanic countries seventy-four years, England thirty-seven years, while in the United States periodical veterinary literature developed almost parallel with the formal educational system.

History is strewn with the remains of many veterinary journals, more than 50 in the United States alone, because publishing (writing, editing, printing, binding, mailing, and maintaining subscribers) is a precarious business in a small crowd, and where, as in English speaking countries, there is no subsidy. So what we have in periodical veterinary literature, let not one forget, reflects a great deal of loyalty to the cause coupled with wise administration—business methods.

If any country has ever won a war by retreating "according to plan" or otherwise, when and where was it done? Our history may be hazy.



# CURRENT LITERATURE

## ABSTRACTS

### Sulfonamides in Oil

Sulfanilamide, sulfathiazole, sulfadiazine, and sulfapyridine can be suspended in soybean oil and other oils in high concentrations. When the suspensions were injected subcutaneously, they produced but slight local reaction in experimental animals (rabbits, rats, dogs). Sulfanilamide, sulfathiazole, and sulfadiazine absorbed at a uniform rate and produced a concentration in the blood for as long as eight days. Excretion in the urine continued for several days after disappearing from the blood. This method of using sulfa drugs deserves further trials. [D. M. Angevine, *Absorption and Excretion of Sulfonamide Compounds suspended in Oil. War Medicine*, 3, (Feb. 1943): 186.]

### Human and Equine Encephalitides in Kansas

Since the discovery of human cases of equine encephalomyelitis, considerable work has been done on the serological differentiation of the various types of human encephalitides. The purpose of this author was to establish the incidence of human infection with western equine encephalomyelitis virus in Kansas. Thirty-six human serums were tested by serum neutralization and 41 per cent of them showed the presence of neutralizing substances against this virus. Therefore, infection with this virus does occur in Kansas. The procedure followed in the serum neutralization tests was essentially the same as described by Howitt. At various intervals, serums from clinical equine cases, which were received at the veterinary clinic, Kansas State College, were tested at the same time and with the same virus dilutions as the human serums. These equine serums served as a check on the testing technique. The viruses used were two strains of western equine encephalomyelitis virus isolated by Kitzelman and Grundmann from the bug *Triatoma sanguisuga* (LeConte).

Microscopic sections were prepared from the brains of guinea pigs infected with this virus. The typical pathology of western equine encephalomyelitis virus infection was found in these sections.

An attempt was made to determine whether the wood rat was exposed in the field to the western equine encephalomyelitis virus. The

wood rat was shown to be susceptible to the western virus by intracranial and foot-pad inoculation. The response of the wood rat to immunization with this virus was shown to be similar to that of the guinea pig. Seven wood rat serums were then tested for the presence of neutralizing substances by the serum neutralization test. None of these serums gave any evidence of protective bodies. It was therefore, assumed that those individuals had not been exposed in the field and were not carriers of the disease. [Morris S. Cover, V.M.D., M.S., *Master's Thesis, Kansas State College, 1943.*]

## BOOKS

### Forty-Fifth Annual Proceedings of the United States Live Stock Sanitary Association

The "Book of the Year" on the animal-disease problems confronting this country is the annual report of the USLSSA. As a book of scientific and practical value



in animal production, it has no peer and would have none because it is the documented report of a tremendous responsibility which needs no stressing

in this place since the annual mobilization of the forces officially charged with providing American livestock protection against disease is a noteworthy event in the field of veterinary medicine, war or no war. A book setting down year by year what this army of animal-disease fighters are doing and how, establishes a precious chronological history of the American livestock industry and provides knowledge that would be less systematically employed. Resuming its publication in bound form instead of burying the material in the files of the *Journal of the American Veterinary Medical Association*, as was done for a few years, is a welcome rehabilitation of the modes of presenting the report.

The report of the 1942 meeting opens with three notable articles: (1) Highlight and Shadows in Tuberculosis Eradication, by John R. Mohler, (2) Veterinary Organization for War-time Service by J. G. Hardenbergh, and (3)

Personal Observations on the Importance of that time) for veterinary instruction and investigation at Cornell, despite flaring protestation, can now be measured in the announcement of the N.Y.S.V.C. for 1943-1944, where the monument erected is described. Here is a booklet of but 35 paper-bound pages that could be easily passed over by the book reviewer, yet it marks indelibly the site where veterinary medicine in the United States took a sharp upward turn, never to take a tall spin, never to growl for long at the strong will of its prophetic founder. Strangely (to keep history straight), the strongest protests against the sharp upturn came not from the private schools, but from the deans of the so-called state schools who were straining with abridged faculties to lure a few students into their class rooms. Against general opposition, Cornell stood firm, and won. No one in the fields of animal production and animal medicine would want a return to the veterinary educational situation of the 1890's when standards we have yet to live down were too low to qualify doctors of veterinary medicine for a seat among the learned professions. Buildings, accoutrement, personnel, curriculums, methods, and requirements described briefly in this announcement is the story of now laid bare for comparison with then. Although differing in no material respect from the announcements of other veterinary colleges of this time in this country, the annual Cornell catalogue represents a priority on the uplifting of standards in veterinary education which students of American veterinary history do not overlook.—[Announcement of the New York State Veterinary College for 1943-44. Cornell University Official Publication, 34, (Nov. 1942). Paper. 35 pages.]

Beyond are the reports of committees covering the problems of current importance to livestock production and how they are handled, together with refreshing discussions from the floor. The background of this book is the committeemen—keymen of their field—who meet once a year to keep animal pathology and hygiene fitted into the complex political set-up of this democracy. [*Proceedings, Forty-Fifth Annual Meeting of the United States Live Stock Sanitary Association. Edited by Mark Welsh, Secretary-Treasurer. Composed and Printed by Waverly Press, Inc., Baltimore. Cloth. 248 pages. 1943. Price, \$2.00. Free to members.*]

### New York State Veterinary College Announcement

At the head of Cuyago Lake, 263 miles from New York City, lies Ithaca, (population 21,000) the home of the veterinary college founded by a famous veterinarian in 1894 for the declared purpose (heroic in its day) of raising the standards of veterinary medicine above the established level. In what manner and to what degree the dictation was honored is now an open page of American veterinary history and (at the risk of making comparisons) a glorious one. Although the effort to raise the standard was denounced as too daring and premature by contemporary institutions of the 1890's, the sequence of results slowly brought universal approval.

In 1894, it could not have been told that in 1940 the livestock of New York would be maintaining the soil fertility, farm prosperity, and high food production essential to the prosecution of a war for national survival. That is to say, only the more far-seeing minds have thought of higher veterinary education as a pillar of the economic structure. The determinations of James Law, steadfast, Scotch emigré, to set a high standard (staggering at

In telling the American people what the veterinary profession can do, one should not forget to add that the perturbation of Britain in regard to animal health is based upon three years of trying, in vain, to regiment its veterinary service. In other words, while the enemy nations with regimented personnel and industries, kill, imprison and enslave millions, the defenders are arguing about the freedom they feel slipping out of their grasp.

The Wheaton-Eaton Service, unquestionable authority on unbiased war news, gives the German losses on the Russian front during May, June and July as 200,000 killed, 580,000 badly wounded, and 100,000 missing. The absolute loss in manpower is placed at 500,000.

# THE NEWS

## AVMA Activities

### Board of Governors Session

The Board of Governors, Drs. O. V. Brumley, Charles W. Bower and James Farquharson, met in Chicago on Sept. 29-30, 1943. Among the items of business considered were: The application of the Sociedad Insular de Medicos Veterinarios of Puerto Rico for affiliation as a constituent association; approval of an increase in advertising rates of the JOURNAL; meetings of association committees which should be scheduled for the week of November 29 when many related organizations will be in Chicago; and the educational publicity program for the current year. Approval was given for the attendance of Association officers at the following meetings:

#### President C. W. Bower:

Oct. 6. Illinois Veterinary Conference, Urbana.

Oct. 7-8. Purdue Short Course for Veterinarians, Lafayette, Ind.

Oct. 12-13. Eastern Iowa Veterinary Medical Association, Cedar Rapids.

Oct. 27. One Hundredth Anniversary of Western Reserve University Medical School, Cleveland, Ohio.

Nov. 1-2. Southern Veterinary Medical Assoc., Atlanta, Ga.

Nov. 4. Midwest Small Animal Hospital Assoc., Burlington, Iowa.

Dec. 13-14. Nebraska State Veterinary Medical Assoc., Lincoln.

Dec. 29-30. Kansas State Veterinary Medical Association.

Jan. 5-7. Cornell Conference for Veterinarians, Ithaca, N. Y.

Jan. 25-27. Iowa State Veterinary Medical Assoc., Des Moines.

President Bower will also attend the meetings of the Indiana, Minnesota and Illinois state associations in January in so far as the dates of these sessions will permit.

#### President-Elect James Farquharson:

Oct. 25-26. Florida State Veterinary Medical Assoc., Jacksonville.

Nov. 17-18. Mississippi Valley Veterinary Medical Assoc., Galesburg, Ill.

Dec. 13-14. Nebraska State Veterinary Medical Assoc., Lincoln.

Jan. 3-4. California State Veterinary Medical Assoc., San Luis Obispo.

Jan. 8-9. Oklahoma State Veterinary Medical Association.

#### Executive Secretary Hardenbergh:

Oct. 6. Illinois Veterinary Conference, Urbana.

Oct. 7-8. Purdue Short Course for Veterinarians, Lafayette, Ind.

Oct. 21-22. Pennsylvania State Veterinary Medical Assoc., Harrisburg.

Nov. 4-5. Interstate Veterinary Medical Assoc., Sioux City, Iowa.

January, 1944. North Carolina Short Course, Raleigh.

The dates for the winter meeting of the Board of Governors and Executive Board were set for Nov. 29-30 at the LaSalle Hotel, Chicago.

### Hands Across the Sea

Col. Edward M. Curley, V.C., from somewhere in England, writes under date of Oct. 7, 1943, of the annual conference of the National Veterinary Medical Association of Great Britain and Ireland which he attended in London (?) on September 29. Through his thoughtful foresight, AVMA President C. W. Bower was enabled to send official greetings to colleagues in the British Isles, Col. Curley serving as the spokesman for the Association.

President Bower's message read: "In behalf of the American Veterinary Medical Association I wish to extend greetings and felicitations to the National Veterinary Medical Association of Great Britain and Ireland and wish you a most successful and profitable meeting. We are not unmindful of the perilous struggle you have had in keeping your herds together and maintaining the health of your food-producing animals. Be assured that the veterinarians of America are conscious of the challenge of the times and realize their intensified responsibilities in contributing to an adequate food supply for the United Nations. May the accomplishments of the veterinary profession in your nations and ours assist immeasurably in bringing a speedy victory and a durable peace."

Col. Curley's letter reads, in part: "I can assure you it was a real pleasure for me to read the message, after the formal recognition of delegates accredited to the conference, and to note the ready and spontaneous approval of the conference. It really was a thrill. There was a fair representation of Americans present, including practically all of the Veterinary Corps officers on duty in this country. I understand



a cable in reply was sent, the context of which was read to the conference for their approval which was readily given.

I am in receipt of a letter from the general secretary of the Society in which it is stated in part: 'It was also a very nice gesture on the part of Mr. Bower, as president, to send the greetings and good wishes of the American Veterinary Medical Association for the success of the conference, and if you would convey to him our cordial thanks and warm appreciation of his action and of the sentiments which prompted it we should be extremely grateful.'

### Changes in Official Roster

The following changes or corrections apply to the appointments listed in the official AVMA roster for 1943-44 (The JOURNAL, October, 1943, pp. 262-268).

**Committee on Veterinary Biological Products.**—Dr. H. E. Biester, Department of Veterinary Research, Iowa State College, Ames, Iowa, has been appointed chairman of this committee vice Dr. H. C. Smith as previously announced. The makeup of this committee is specified by the administrative by-laws and Dr. Smith's recent change of activity from veterinary research at Oklahoma A. and M. College to commercial work necessitated a new appointment.

**Special Committee on Diseases of Small Animals.**—On this committee, "Dr. E. C. Jones, Norden Laboratories, Lincoln, Neb." should have read "Dr. Eugene C. Jones, 9088 Santa Monica Blvd., Los Angeles, Calif."

**National Poultry Advisory Council.**—Add the names of Dr. Frank Thorp, Jr., Michigan Agricultural Experiment Station, East Lansing, representing the Committee on Poultry, and Dr. H. D. Bergman, Division of Veterinary Medicine, Iowa State College, Ames, representing veterinary colleges.

**Resident Provincial Secretary for Quebec.**—Dr. J. M. Veilleux, Ministry of Agriculture, Quebec, has been nominated by the Province of Quebec Veterinary Association to serve vice Dr. J. S. Jasmin, the previous incumbent.

### Can You Help Locate These Lost Members?

The aid of JOURNAL readers is solicited in locating the following members, mail to whom has been returned to the Association's central office. The last known address of each is given. Should you be able to provide information as to present residence, your advice *via* postcard or letter will be greatly appreciated.

Adolph, W. H., Mira Mar Hotel, 6212 Woodlawn Ave., Chicago, Ill.

Allen, G. A. Conrad, Iowa.

Bailey, L. K., 123 S. Randolph, Lexington, Va.  
Barry, Arthur A., 6th Vet. Co. (Sep), Ft. Bliss, Texas.

Burnham, C. H., Boxholm, Iowa.

Current, Jay B., Topeka, Ind.

Davidson, W. M., 2201 Grand Ave., Pueblo, Colo.

Dole, Joel R., 768 Pleasant St., Worcester, Mass.

Dowds, Stanley J., Hawley, Minn.

Friedburg, Klaus, 56th at Broadway, Gary, Ind.

Fries, J. H., Box 113, Merrill, Mich.

Hall, Howard H., Spooner, Wis.

Hesse, Charles P., 45 W. 9th Ave., Columbus, Ohio.

Holtzman, Jacob Station Hosp., Army Air Base, Ft. Douglas, Utah.

Hupp, Lynn D., 1339 E. Armour, Kansas City, Mo.

Ingram, H. E., c/o Swift & Co., 2300 S. Lamar, Dallas, Texas.

Jackson, F. B., Camden, Ohio.

Johnson, Klemans F., 1017 Mundy Ave., El Paso, Texas.

Kilpatrick, W. C., Rt. No. 1, Box 12, Benton City, Wash.

Kintner, J. H., Pan-American Sanitary Bureau, Rm. 1042 Munitions Bldg., Washington, D. C.

Kornetzky, H. C., 304 Garfield St., Ft. Atkinson, Wis.

Lumb, W. V., 1206 Rollins, Columbia, Mo.

Malle, A. L., 916 Ohio, Lawrence, Kansas.

Maschgan, Erich R., 6147 Greenwood Ave., Chicago, Ill.

Mathis, Rudy C., State Veterinarian, Atlanta, Ga.

Ogilvig, Fred B., Lake of Forest Club, Edwardsville, Kansas.

Potts, Burt E., Rt. No. 2 Box 2164, Kent, Wash.

Prendergast, W. B., 6818 S. Normal Ave., Chicago, Ill.

Rothe, W. E., 146 W. Lincoln Ave., Roselle Park, N. J.

Ryan, John H., Pittsfield, Ill.

Ryff, J. F., Rimrock Rd., Billings, Mont.

Silver, Dougal, 429 Wrightwood Ave., Chicago, Ill.

Smith, Charles C., 858 22nd St., Santa Monica, Calif.

Sparkman, Clarence M., U. S. Naval Air Base, Ft. Worth, Texas.

Stefanski, A. M., 514-16 P. O. Bldg., Jackson, Miss.

Wanner, Kasper, Chicago Q. M. Depot, Chicago, Ill.

Weldner, Morris F., Box 205, Cody, Wyo.

Wright, Charles C., 15th Post. Hq. Hq. C (T. C.), Charleston, S. Car.

Zontine, William J., 4438 Clay St., Denver, Colo.

## TUNE IN THESE A. V. M. A. RADIO PROGRAMS DURING THE CONVENTION

DAY	HOUR	STATION	SPEAKER	SUBJECT
Sat., Aug. 21	12 Noon	Columbia Network	Dr. A. W. Miller	Disease Control
Thurs., Aug. 26	9:30 a.m.	Mutual Network (KWK)	Dr. J. V. Lacroix	War and Livestock Production
Mon., Aug. 23	5:45 a.m.	KXOK	Dr. J. G. Hardenbergh	Dairy Problems
Tues., Aug. 24	5:45 a.m.	KXOK	Dr. V. J. Novy	Sheep Problems
Wed., Aug. 25	5:45 a.m.	KXOK	Dr. J. L. Axby	Swine Problems
Thurs., Aug. 26	5:45 a.m.	KXOK	Dr. F. R. Beaudette	Poultry Problems
Wed., Aug. 25	10 p.m.	KWK	Dr. W. W. Dimock Dr. O. V. Brumley Dr. L. A. Merillat Dr. R. A. Hendershott	Veterinary Profession and the War
Tues., Aug. 24	6:40 a.m.	KMOX	Dr. C. W. Bower Dr. C. C. Hastings	Swine Production
Wed., Aug. 25	6:40 a.m.	KMOX	Dr. C. R. Donham Dr. W. Wisnicky	Dairy Production
Thurs., Aug. 26	6:40 a.m.	KMOX	Dr. Cliff Carpenter Dr. R. E. Lubbehusen	Poultry Production
Wed., Aug. 25	12:45 Noon	KSD	Dr. J. A. Barger	Black Market Meat
Tues., Aug. 24	1:06 p.m.	WEW	Dr. W. A. Hagan	Dairy Cattle
Wed., Aug. 25	1:06 p.m.	WEW	Dr. L. P. Doyle	Swine Diseases
Thurs., Aug. 26	1:06 p.m.	WEW	Dr. J. D. Ray	Poultry Diseases
Tues., Aug. 24	8:15 p.m.	WIL	Dr. Mark Welsh	Animal Disease and Human Disease
Wed., Aug. 25	8:15 p.m.	WIL	Dr. A. H. Quin	Veterinary Profession and the War
Wed., Aug. 25	12:55 p.m.	WTMV	Dr. C. C. Franks	Swine Production

The radio programs listed above were broadcast at the war conference and eightieth annual meeting of the American Veterinary Medical Association in St. Louis, Aug. 25-26, 1943.

## APPLICATIONS

The listing of applicants conforms to the requirements of the administration by-laws—Article X, Section 2.

### First Listing

- COX, BENJAMIN F.  
470 Samford Ave., Auburn, Ala.  
D.V.M., Alabama Polytechnic Institute, 1942.  
Vouchers: W. E. Cotton and E. S. Winters.
- KENASTON, GLENN H.  
3821 Arizona St., San Diego, 4, Calif.  
D.V.M., Washington State College, 1931.  
Vouchers: H. F. Roberts and R. R. Younce.
- MARCELLUS, F. N.  
Ontario Agricultural College, Guelph, Ont., Canada.  
B.V.Sc. Ontario Veterinary College, 1925.  
Vouchers: C. D. McGilvray and R. A. McIntosh.
- NEWLIN, T. A.  
11 Segur St., Dover, N. J.  
D.V.M., Kansas State College, 1928.  
Vouchers: H. R. McKinney and L. R. Barto.
- REED, W. R.  
c/o Home Pkg. Co., Terre Haute, Ind.  
D.V.M., Ohio State University, 1936.  
Vouchers: O. C. Schwalm and G. S. Elwood.
- WALTON, R.  
Veterinary Lab., Dept. of Agriculture, Edmonton, Alberta, Can.  
B.V.Sc., Ontario Veterinary College, 1942.  
Vouchers: T. L. Jones and P. R. Talbot.

### Second Listing

- Bravo, Guillermo Q., Reyna 100 Villa Obregon, Mexico D. F.
- Britten, Mart S., 314 W. Carroll St., Macomb, Ill.
- Cecil, Dwight L., 463 S. Monroe St., Decatur, Ill.
- Chapman, O. D., 136 Helois St., P. O. Box 9006, New Orleans, La.
- Clapham, Benjamin F., 225 Florene Ave., Westfield, N. J.
- Crundwell, J. Bradley, S.C.U. 1907 Vet. Section, Vet. Station Hosp., Ft. Lewis, Wash.
- Dopp, I. F., Craig, Mo.
- Graham, T. L., Arthur, Ill.
- Hale, M. D., No. Main St., Wolfeboro, N. H.
- Harbour, E. G. L., Lock Box 113, Lawrence, Kansas.
- Horstman, Carl H., 300 Collinsville Ave., Collinsville, Ill.
- Houston, N. G., Eatonton, Ga.
- Huggins, M. J., 316 W. Park St., Edwardsville, Ill.
- Kay, Gustave A., 7003 Westlake Dr., Dallas, 14, Texas.
- Newcomb, H. H., 16 Park Pl., Newark, N. J.
- Ragle, Austin, 2208 Resort St., Baker, Ore.

- Rasmussen, F. R., Glencoe, Minn.
- Stipe, F. M., 701 S. Kansas, Newton, Kansas.
- Walker, W. A., Golconda, Ill.
- Wank, Carl A., 616 S. 7th St., St. Joseph, Mo.
- Ward, Willard D., Veterinary Station Hosp., S.C.U. 1907, Fort Lewis, Wash.

### 1943 Graduate Applicants

#### First Listing

The following are graduates who have recently received their veterinary degrees and who have applied for AVMA membership under the provision granted in the Administrative By-Laws to members in good standing of junior chapters. Applications from this year's senior classes not received in time for listing this month will appear in later issues. An asterisk (\*) after the name of a school indicates that all of this year's graduates have made application for membership.

#### Alabama Polytechnic Institute

- COTTIER, GEORGE J., D.V.M.  
Box 542, Auburn, Ala.  
Vouchers: W. E. Cotton and F. P. Woolf.
- EDMISTON, H. MICHAEL, D.V.M.  
52 S. Washington St., Easton, Md.  
Vouchers: E. S. Winters and W. E. Cotton.
- HOWARD, JACK H., D.V.M.  
Box 267, Leesburg, Va.  
Vouchers: E. S. Winters and W. E. Cotton.
- JACOBS, JOEL H., D.V.M.  
P. O. Box 133, Auburn, Ala.  
Vouchers: E. S. Winters and W. E. Cotton.

#### Colorado State College

- BARBER, STERLING E., D.V.M.  
Norden Labs, Sioux City, Iowa.  
Vouchers: K. W. Smith and I. E. Newsom.
- CLARK, STERLING D., D.V.M.  
Box 336, Fowler, Colo.  
Vouchers: J. Farquharson and V. D. Stauffer.
- CULLEN, W. CLOUGH, D.V.M.  
127 Lincoln St., Mankato, Minn.  
Vouchers: K. W. Smith and I. E. Newsom.
- EDEN, EDWARD L. JR., D.V.M.  
2800 W. Northern Ave., Pueblo, Colo.  
Vouchers: J. Farquharson and K. W. Smith.
- ENGLISH, J. E. JR., D.V.M.  
Powell, Wyo.  
Vouchers: I. E. Newsom and J. Farquharson.
- HAMILTON, PAUL C., D.V.M.  
223 Ramsey St., Stillwater, Okla.  
Vouchers: K. W. Smith and I. E. Newsom.
- HASSELBALCH, NEAL I., D.V.M.  
St. Edward, Neb.  
Vouchers: J. Farquharson and K. W. Smith.
- JOSE, DARR, D.V.M.  
Rt. No. 1, Box 244, Visalia, Calif.  
Vouchers: J. Farquharson and K. W. Smith.



- KLAICH, NICK, D.V.M.**  
P. O. Box 1434, McGill, Nev.  
Vouchers: J. Farquharson and K. W. Smith.
- KOENIG, RICHARD E., D.V.M.**  
801 N. 6th St., Sterling, Colo.  
Vouchers: J. Farquharson and K. W. Smith.
- LAIRD, WILLIAM W., D.V.M.**  
6227 King Ave., Bell, Calif.  
Vouchers: J. Farquharson and R. F. Bourne.
- MCCHESNEY, ARTHUR C. JR., D.V.M.**  
708 Remington, Ft. Collins, Colo.  
Vouchers: K. W. Smith and I. E. Newsom.
- MCCHESNEY, JOHN H., D.V.M.**  
708 Remington St., Ft. Collins, Colo.  
Vouchers: R. F. Bourne and F. X. Gassner.
- MINNICK, RICHARD F., D.V.M.**  
612 S. College, Ft. Collins, Colo.  
Vouchers: J. Farquharson and K. W. Smith.
- MOLELLO, JOSEPH, D.V.M.**  
Box 11, Portland, Colo.  
Vouchers: J. Farquharson and K. W. Smith.
- NISLEY, BRYANT, D.V.M.**  
1622 Avenue D., Gothenburg, Neb.  
Vouchers: K. W. Smith and I. E. Newsom.
- OSGUTHORPE, DELBERT A., D.V.M.**  
3659 S. 20th E., Salt Lake City, Utah.  
Vouchers: J. Farquharson and K. W. Smith.
- PIKE, TOMMY L., D.V.M.**  
Rt. No. 2, LaJunta, Colo.  
Vouchers: J. Farquharson and K. W. Smith.
- REID, DONALD G., D.V.M.**  
626 W. Platte Ave., Ft. Morgan, Colo.  
Vouchers: J. Farquharson and K. W. Smith.
- STACY, J. E., D.V.M.**  
Whitehall, Wis.  
Vouchers: J. Farquharson and V. D. Stauffer.
- Tew, ALFRED C., D.V.M.**  
200 E. Laurel St., Ft. Collins, Colo.  
Vouchers: K. W. Smith and I. E. Newsom.
- WHITE, ROBERT W., D.V.M.**  
2525 "O" St., Lincoln, Neb.  
Vouchers: K. W. Smith and J. Farquharson.
- WION, JOHN E., D.V.M.**  
708 Remington St., Ft. Collins, Colo.  
Vouchers: J. Farquharson and K. W. Smith.
- WOODS, RICHARD S., D.V.M.**  
244 Washington St., Monte Vista, Colo.  
Vouchers: J. Farquharson and K. W. Smith.
- Cornell University\***
- ARNABOLDI, JOSEPH P., D.V.M.**  
Box 136, Mt. Sinai, L. I., N. Y.  
Vouchers: H. J. Milks and H. C. Stephenson.
- BANDES, GERALD H., D.V.M.**  
164 E. 71 St., New York, N. Y.  
Vouchers: W. J. Gibbons and H. C. Stephenson.
- BERDAN, LEONARD N., D.V.M.**  
William St., Salem, N. Y.  
Vouchers: H. C. Stephenson and H. J. Milks.
- BOARDMAN, DON A. JR., D.V.M.**  
213 W. Liberty St., Rome, N. Y.  
Vouchers: M. G. Fincher and H. C. Stephenson.
- BRADLEY, DOROTHY E., D.V.M.**  
226 East Ave., Lockport, N. Y.  
Vouchers: A. G. Danks and H. C. Stephenson.
- COYE, ELMER N., D.V.M.**  
Naples, N. Y.  
Vouchers: E. S. Brown and J. N. Frost.
- CRAWFORD, EVERETT J., D.V.M.**  
Angelica, N. Y.  
Vouchers: W. J. Gibbons and J. N. Frost.
- DOIG, ROBERT, D.V.M.**  
42 St. John St., Walton, N. Y.  
Vouchers: A. G. Danks and W. J. Gibbons.
- DRAGOO, PAUL O., D.V.M.**  
Schenevus, N. Y.  
Vouchers: J. N. Frost and H. C. Stephenson.
- ELMER, EVERETT K., D.V.M.**  
25 Howard Ave., Malone, N. Y.  
Vouchers: H. C. Stephenson and A. B. Hoerlein.
- FERBER, LEONARD, D.V.M.**  
33-10 145th St., Flushing, N. Y.  
Vouchers: M. G. Fincher and M. E. Miller.
- FISH, RICHARD B., D.V.M.**  
103 College Blvd., Grenada, Miss.  
Vouchers: H. C. Stephenson and H. J. Milks.
- GAGE, THOMAS A., D.V.M.**  
806 E. Seneca St., Ithaca, N. Y.  
Vouchers: H. C. Stephenson and A. G. Danks.
- GILLESPIE, RICHARD J., D.V.M.**  
7502-7 Ave., Brooklyn, N. Y.  
Vouchers: H. C. Stephenson and H. J. Milks.
- GOLDBERG, ABIE, D.V.M.**  
14 S. Seventh St., Hudson, N. Y.  
Vouchers: W. J. Gibbons and H. C. Stephenson.
- GOODMAN, MERRILL, D.V.M.**  
Box 263, Livingston Manor, N. Y.  
Vouchers: G. H. Freer and M. G. Fincher.
- Goss, ALLEN C., D.V.M.**  
Stamford, N. Y.  
Vouchers: W. J. Gibbons and H. C. Stephenson.
- GROVER, BOYNTON A., D.V.M.**  
6 Helen St., Plattsburg, N. Y.  
Vouchers: A. G. Danks and H. J. Milks.
- JASTREMSKI, MAURICE M., D.V.M.**  
R.D. No. 3, Richfield Springs, N. Y.  
Vouchers: J. N. Frost and H. C. Stephenson.
- JONES, WALLACE G., D.V.M.**  
Smithtown Branch, N. Y.  
Vouchers: A. G. Danks and H. C. Stephenson.
- KARMIN, LEO R., D.V.M.**  
390 Eastern Parkway, Brooklyn, N. Y.  
Vouchers: H. J. Milks and M. G. Fincher.
- MALMBERG, REX A., D.V.M.**  
R.F.D. No. 1, Ashville, N. Y.  
Vouchers: J. N. Frost and H. C. Stephenson.
- PALMER, HALLSEY R., D.V.M.**  
Yorktown Heights, N. Y.  
Vouchers: A. G. Danks and H. J. Milks.
- PARMELEE, RICHARD H. JR., D.V.M.**  
1544 Tolma Ave., Dormont, Pa.  
Vouchers: H. J. Milks and H. C. Stephenson.

**RADZIWILLER, SAUL, D.V.M.**  
1820 E. 13th St., Brooklyn, N. Y.  
Vouchers: J. N. Frost and H. C. Stephenson.

**RICHARDS, JOHN W. JR., D.V.M.**  
812 Hanshaw Rd., Ithaca, N. Y.  
Vouchers: J. N. Frost and H. C. Stephenson.

**RICKARD, CHARLES G., D.V.M.**  
915 E. State St., Ithaca, N. Y.  
Vouchers: R. R. Birch and H. L. Gilman.

**RIPPS, JEROME H., D.V.M.**  
147-11 32 Ave., Flushing, N. Y.  
Vouchers: H. L. Gilman and F. Bloom.

**ROBERTSON, COLIN M., D.V.M.**  
R.D. No. 1, Laurens, N. Y.  
Vouchers: A. G. Danks and H. C. Stephenson.

**SIMPSON, CHARLES F., D.V.M.**  
65 S. Harrison St., East Orange, N. J.  
Vouchers: H. C. Stephenson and H. J. Milks.

**SMITH, EDWIN B., D.V.M.**  
Delhi Rd., Gainesville, N. Y.  
Vouchers: H. C. Stephenson and A. G. Danks.

**STUDDERT, HUGH P., D.V.M.**  
310 College Ave., Ithaca, N. Y.  
Vouchers: H. C. Stephenson and H. J. Milks.

**TANIS, JOHN, D.V.M.**  
Ideal Farms, Augusta, N. J.  
Vouchers: M. G. Fincher and A. G. Danks.

**TROY, MATTHEW A., D.V.M.**  
319 College Ave., Ithaca, N. Y.  
Vouchers: H. J. Milks and M. G. Fincher.

**TWEDDLE, J. RICHARD, D.V.M.**  
Montgomery, N. Y.  
Vouchers: J. N. Frost and H. C. Stephenson.

**VAIL, JOHN I., D.V.M.**  
73 Maple St., Bristol, Conn.  
Vouchers: A. G. Danks and H. C. Stephenson.

**ZEPP, CLARENCE P. JR., D.V.M.**  
138 W. 53rd St., New York, N. Y.  
Vouchers: H. L. Gilman and H. C. Stephenson.

### Ontario Veterinary College

**SOLTYS, ALBERT, B.V.Sc.**  
Miami, Man., Can.  
Vouchers: R. A. McIntosh and F. W. Schofield.

### Texas A. & M. College

**BAILEY, EARL G. JR., D.V.M.**  
Box 148, Dexter, Mo.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**BAILEY, JAMES W., D.V.M.**  
Orion, Ill.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**BAKER, FREDERICK W., D.V.M.**  
Blanchardville, Wis.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**BALLARD, DAVID C., D.V.M.**  
Haskell, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**BARONTI, AUGUST C., D.V.M.**  
109 Fourth St., Eureka, Calif.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**BECKLEY, DANN E., D.V.M.**  
107 Crescent, San Antonio, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**BENITEZ, SERGIO V., D.V.M.**  
Pepe Torres No. 58, Holguin, Cuba.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**BORER, LEE N., D.V.M.**  
1439 President St., Brooklyn, N. Y.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**CABEEN, JAMES L., D.V.M.**  
3219 Fairview St., Dallas, Texas.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**CASEY, WATT M., D.V.M.**  
Albany, Texas.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**CHARLEBOIS, GEORGE J., D.V.M.**  
6213 Miramonte Blvd., Los Angeles, Calif.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**CHASTAIN, CLAUDE B., D.V.M.**  
Rising Star, Texas.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**CLAYTON, P. A. JR., D.V.M.**  
Bailey, Tenn.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**CLINE, DEANE T., D.V.M.**  
Box 312, College Station, Texas.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**CRUTCHER, MARVIN L. JR., D.V.M.**  
516 W. 3rd St., Sedalia, Mo.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**DELUCIA, KENNETH, D.V.M.**  
565 Courtlandt Ave., New York, N. Y.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**DETJEN, EDWARD Y., D.V.M.**  
1511 N. Elwood, Tulsa, Okla.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**DEVOLIN, TYRREL E., D.V.M.**  
Marfa, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**DOBSON, GEORGE W., D.V.M.**  
College Grove, Tenn.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**DONELSON, SETH B., D.V.M.**  
Stanton, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**DOWELL, PAUL H., D.V.M.**  
Box 424, College Station, Texas.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**DUBOSE, WAYMON G., D.V.M.**  
1739 Convina St., San Antonio, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

**DUCKENFIELD, HORACE, D.V.M.**  
Box 401, Belmont, Calif.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**ELIA, CHARLES V., D.V.M.**  
1201 West St., Marshall, Texas.  
Vouchers: J. W. McCoy and R. P. Marsteller.

**FAHR, ROBERT E., D.V.M.**  
302A E. 33rd St., Bryan, Texas.  
Vouchers: W. C. Banks and R. P. Marsteller.

GORDON, THOMAS M. JR., D.V.M.  
Breckenridge, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

GRAY, JACK JR., D.V.M.  
Rt. No. 2 Box 57, Mission, Texas.  
Vouchers: W. C. Banks and R. P. Marsteller.

GUNN, FLOYD L., D.V.M.  
Marble Falls, Texas.  
Vouchers: W. C. Banks and R. P. Marsteller.

HARNER, GEORGE, D.V.M.  
Newton, Miss.  
Vouchers: R. B. Caraway and R. P. Marsteller.

HAYDEN, JOHN G. JR., D.V.M.  
250 4th Ave. E., Twin Falls, Idaho.  
Vouchers: W. C. Banks and R. P. Marsteller.

HEJL, JOHN M., D.V.M.  
5021 S. 18th St., Omaha, Neb.  
Vouchers: R. B. Caraway and R. P. Marsteller.

JENKINS, WILLIAM D., D.V.M.  
926 Euclid Ave., Houston, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

JOINER, EARLY E., D.V.M.  
South Plains, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

KELBER, WILLIAM J., D.V.M.  
6th and Baker, Ontario, Calif.  
Vouchers: R. B. Caraway and R. C. Dunn.

KERBY, DURON R., D.V.M.  
Rt. No. 2, Goldthwaite, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

LURIES, WILFORD J., D.V.M.  
240 W. 7th St., Erie, Pa.  
Vouchers: R. B. Caraway and R. P. Marsteller.

MADIN, STEWART H., D.V.M.  
209 San Gabriel Ave., Azusa, Calif.  
Vouchers: J. H. Milliff and R. C. Dunn.

MAGRANE, HARRY J. II, D.V.M.  
1207 Lincolnway W., Mishawaka, Ind.  
Vouchers: W. C. Banks and R. P. Marsteller.

MARTIN, G. A., D.V.M.  
Dyersburg, Tenn.  
Vouchers: R. B. Caraway and R. P. Marsteller.

MILENTZ, ARTHUR R. JR., D.V.M.  
Liberty, Texas.  
Vouchers: W. C. Banks and R. P. Marsteller.

MILLER, RUFUS H. JR., D.V.M.  
1801 Lancaster St., Big Spring, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

MUNSON, ALEXANDER H., D.V.M.  
1223 Aganier St., San Antonio, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

PATTERSON, RAYMOND C., D.V.M.  
Franklin Grove, Ill.  
Vouchers: R. B. Caraway and R. P. Marsteller.

PHILLIPS, HUGH M., D.V.M.  
Box 86, Gilmer, Texas.  
Vouchers: W. C. Banks and R. P. Marsteller.

ROBERSON, BILLY C., D.V.M.  
Pecos, Texas.  
Vouchers: W. C. Banks and R. P. Marsteller.

ROMANE, WILLIAM M., D.V.M.  
Box 372, Crosbyton, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

ROUSE, HAROLD D., D.V.M.  
1822 Broadway, Beaumont, Texas.  
Vouchers: W. C. Banks and R. P. Marsteller.

SCHOFIELD, GENE C., D.V.M.  
Viroqua, Wis.  
Vouchers: R. B. Caraway and R. P. Marsteller.

STALLINGS, EARL P., D.V.M.  
2147 Colquitt Ave., Houston, Texas.  
Vouchers: W. C. Banks and R. P. Marsteller.

SWINGLEY, ROBERT P., D.V.M.  
20 W. Douglas, Freeport, Ill.  
Vouchers: R. B. Caraway and R. P. Marsteller.

THOMAS, JULIAN H., D.V.M.  
3808 28th St., Port Arthur, Texas.  
Vouchers: W. C. Banks and R. P. Marsteller.

THOMAS, WILLIAM K., D.V.M.  
Box 498, College Station, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

TOWER, JAMES H., D.V.M.  
Dalton, Pa.  
Vouchers: W. C. Banks and R. P. Marsteller.

WILCOX, ROBERT B., D.V.M.  
637 W. 18th, Houston, Texas.  
Vouchers: R. B. Caraway and R. P. Marsteller.

YOUNG, JAMES B., D.V.M.  
1233 Dryades St., New Orleans, La.  
Vouchers: R. B. Caraway and R. P. Marsteller.

### Washington State College

BRABROOK, R. K., D.V.M.  
622 W. First St., Aberdeen, Wash.  
Vouchers: E. E. Wegner and J. L. Ellis.

### Second Listing Colorado State College

Barnhart, Walter G., D.V.M., Shaw, Colo.

### Michigan State College

Davidson, George W., D.V.M., 119 E. Grand River Ave., East Lansing, Mich.  
Freier, George G., D.V.M., Unionville, Mich.  
Stahl, Charles H., D.V.M., 1232 Wayburn Ave., Grosse Pointe 30, Mich.

### Washington State College

Baker, B. K., D.V.M., 1440 W. 101 St., Los Angeles, Calif.

## COMMENCEMENTS

### Cornell University

The commencement exercises of Cornell University were held on Oct. 17, 1943. The following men were graduated with the degree of Doctor of Veterinary Medicine.

Arnaboldi, Joseph P.	Crawford, Everett J.
Bandes, Gerald H.	Doig, Robert S.
Berdan, Leonard N.	Dragoo, Paul O.
Boardman, Don A., Jr.	Elmer, Everett K.
Bradley, Dorothy E.	Ferber, Leonard
Coye, Elmer N.	Fish, Richard B.



*New York State Veterinary College  
Cornell University  
Class of October, 1943*



Back row, left to right: R. J. Gillespie, P. O. Dragoo, E. J. Crawford, R. B. Fish, R. S. Doig, T. A. Gage, E. B. Smith, A. C. Goss, C. G. Rickard, R. H. Parmelee, Jr., B. A. Grover, E. N. Coyle, C. P. Zepp, Jr., W. G. Jones.

Middle row, left to right: Lieut. C. B. Sturm, C. F. Simpson, M. Goodman, L. Ferber, G. H. Bandes, A. Goldberg, J. H. Ripps, M. M. Jastremski, H. R. Palmer, E. K. Elmer, J. I. Vail, J. R. Tweddle, J. Tanis, L. N. Berdan, H. P. Studdert.

Front row, left to right: C. M. Robertson, M. Troy, D. A. Boardman, Jr., S. Radzwiller, Dr. A. G. Danks, Dr. H. J. Mills, Miss D. E. Bradley, Dr. H. C. Stephenson, Dr. J. N. Frost, J. P. Arnaboldi, R. A. Malmberg, J. W. Richards.

•L. R. Karmin is not in the picture.

Gage, Thomas A.  
Gillespie, Richard J.  
Goldberg, Abie  
Goodman, Merrill  
Goss, Allen C.  
Grover, Boynton A.  
Jastremski, Maurice  
M.  
Jones, Wallace G.  
Karmin, Leo R.  
Malmberg, Rex A.  
Palmer, Hallsey R.  
Parmelee, Richard H.,  
Jr.

Radzwiller, Saul  
Richards, John W.  
Rickard, Charles G.  
Ripps, Jerome H.  
Robertson, Colin M.  
Simpson, Charles F.  
Smith, Edwin B.  
Studdert, Hugh P.  
Tanis, John  
Troy, Matthew A.  
Tweddle, John R.  
Vail, John I.  
Zepp, Clarence P., Jr.

Cabeen, James L.  
Casey, Watt M.  
Charlebois, George J.  
Chastain, Claude B.  
Clayton, Percy A., Jr.  
Cline, Deane T.  
Crutcher, Marvin L.,  
Jr.  
DeLucia, Kenneth J.  
Detjen, Edward Y.  
DeVolin, Tyrrel E.  
Dobson, George W.  
Donelson, Seth B.  
Dowell, Paul H. K., Jr.  
DuBose, Wyman G.  
Duckenfield, Horace,  
Jr.  
Ella, Charles V.  
Fahr, Robert E.  
Gordon, Thomas M.,  
Jr.  
Gray, Jack, Jr.  
Gunn, Floyd L.  
Harner, George  
Hayden, John G., Jr.  
Hejl, John M.  
Jenkins, William D.

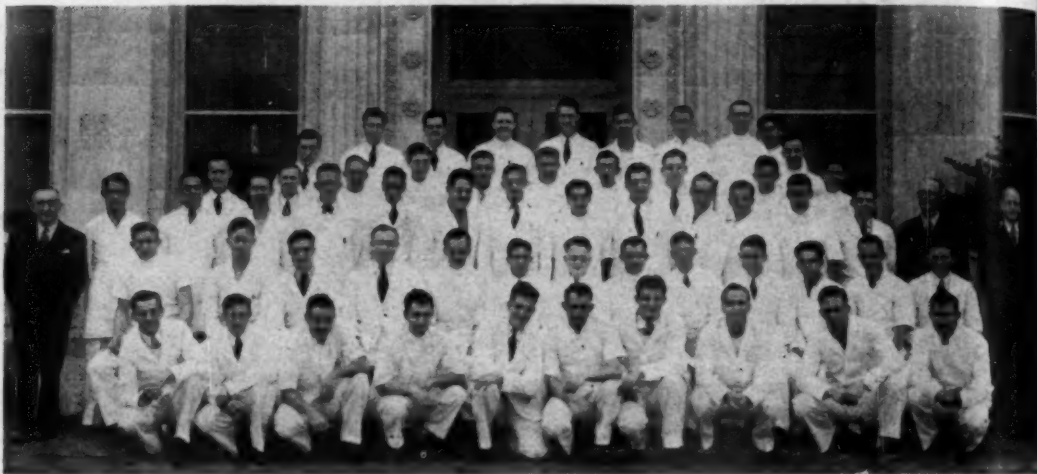
Joiner, Early E.  
Kaltwasser, Alphus C.  
Kelber, William J.  
Kerby, Duron R.  
Luries, Wilford J.  
Madin, Stewart H.  
Magrane, Harry J., II  
Martin, George A.  
Milentz, Arthur R., Jr.  
Miller, Rufus H., Jr.  
Munson, Alexander H.  
Patterson, Raymond C.  
Phillips, Hugh M.  
Roberson, Billie C.  
Romane, William M.  
Rouse, Harold D.  
Schofield, Gene C.  
Staggs, Harold W.  
Stallings, Earl P.  
Sturtevant, Robert A.  
Swingley, Robert P.  
Thomas, Julian H.  
Thomas, William K.  
Tower, James H.  
Wilcox, Robert B.  
Young, James B.

### Texas A. & M. College

The commencement exercises for Texas A. & M. College were held on Sept. 17, 1943. The following men were graduated with the degree of Doctor of Veterinary Medicine:

Bailey, Earl G., Jr.  
Bailey, James W.  
Baker, Frederick W.  
Ballard, David C.  
Baronti, August C.  
Barron, Charlie N.  
Beckley, Dann E.  
Benitez, Sergio V.  
Black, William L. Jr.  
Borer, Lee N.

**Senior Class, September, 1943, Texas A. & M. College, College Station, Texas**  
(Graduation announcement appears elsewhere in this JOURNAL)



Left to right: First row: Harold P. Smith, James L. Cabeen, Horace Duckenfield, Jr., Wilfred J. Luries, William D. Jenkins, Floyd L. Gunn, Rufus H. Miller, Jr., Gene C. Schofield, Stephen N. Johnson, John G. Hayden, Jr.

Second row: Daniel H. Saunders, Edward Y. Detjen, Robert E. Fahr, Kenneth J. DeLucia, John M. Hejl, Sergio V. Benitez, Raymond C. Patterson, Harry J. Magrane II, James B. Young, David C. Ballard, Robert B. Wilcox, Harold D. Rouse, Duron R. Kerby.

Third row: Ralph C. Dunn, Professor of Veterinary Pathology and Bacteriology, Billie C. Roberson, Deane T. Cline, Tyrrell E. DeVolin, Thomas M. Gordon, Jr., Claude B. Chastain, Lee N. Borer, Earl G. Bailey, Jr., Paul H. Dowell, William L. Black, Jr., Frank J. Douglas, Jr., Waymon G. DuBose, Jack Gray, Jr., George A. Martin, August A. Lenert, Professor of Veterinary Medicine and Surgery, Frederick P. Jaggi, Jr., Professor of Veterinary Hygiene.

Fourth row: Frederick W. Baker, Early E. Joiner, George J. Charlebois, Marvin L. Crutcher, Arthur R. Milentz, Jr., George W. Fischer, William M. Romane, Leo C. Holbrook, Guy R. Anderson, Hugh M. Phillips.

Fifth row: James W. Bailey, Robert P. Swingley, George W. Dobson, Percy A. Clayton, Dann E. Beckley, Charles N. Barron, Watt M. Casey, Earl P. Stallings, William J. Kelber, James H. Tower.

Graduates not shown: Steward H. Madin, August C. Baronti, Robert A. Sturtevant, Seth B. Donelson, George Horner, Alphas C. Kaltwasser, Harold W. Staggs, William K. Thomas, Charles V. Elia, Alexander H. Munson.

## U. S. GOVERNMENT

### Food Ration Order Amended

Food ration order 16 has been amended as of Oct. 1, 1943, Section 30.2 (as amended) which reads as follows:

Sec. 30.2 *Items excluded from the definition of meat.* (a) The following items are not "meat" as that term is used in this order:

(1) Adrenal glands, Blle, Epididymes, Gullets (closely trimmed), Hog lungs, Lymph glands, Ovaries, Parathyroid glands, Pineal glands, Pituitary glands, Placentas, Prostate glands, Salivary glands, Thyroid glands, and Tonsils.

(2) Bacon rinds, Beef ear meat, Beef lips, Beef lungs, Beef palate meat, Beef tails, Beef udders, Brains, Diaphragm meat, Edible blood, Edible bones, Feet, Fries, Gullet meat,

Heart trimmings, Kidneys, Lamb lungs, Melts, Pork back bones, Pork chitterlings, Pork duodena, Pork ears, Pork faces, Pork skins (gelatine), Pork skins (No. 1), Pork lips, Pork neck bones, Pork snouts, Pork sparerib brisket bones, Pork tails, Tongue trimmings, Tripe, Veal lips, Veal lungs, Veal neck bones, Veal palate meat, and Veal tails.

Many cows, horses and dogs get better breaks on food than the families that own them, says a Cornell agriculturalist.—*Science News Letter.*

A War Bond every payday will help make the rape of Poland and Pearl Harbor two of the big blunders of history.

## AMONG THE STATES

### Delaware

**Mastitis Control Program.**—A program for the control of mastitis in Delaware has been inaugurated with the appointment of Dr. Vaughan C. Lancaster, (U. of P. 1937) as mastitis expert in charge. The program is sponsored by the



Dr. Vaughan C. Lancaster

State Board of Agriculture in cooperation with the agricultural experiment station and Haskell research at the University of Delaware. Dr. Lancaster was formerly in practice at New Castle, Del. He is well known to veterinarians and many dairymen throughout the state. The program will be based upon the mastitis research conducted by the Haskell Foundation. A diagnostic laboratory has been established for the control work at the university. Dr. Lancaster will devote part of his time to work at the laboratory and part to work in the field with dairymen and their veterinarians in an endeavor to establish a well coordinated program of control in which the technical skill of the practicing veterinarians will be fully utilized.

### Illinois

**War Emergency Conference on Swine Diseases.**—The twenty-fourth annual Illinois Veterinary Conference sponsored by the Department of Animal Pathology and Hygiene, University of Illinois, Oct. 6, 1943, took the form of a streamlined, one-day conference on diseases of swine and poultry pertinent to the nation's food-production program. Prominent among the titles and speakers were:

Robert Graham: "Experimental Swine Enteritis Therapy."

C. C. Morrill: "Plant Poisoning, Rabies, Hemophilia."

Jesse Sampson: "Baby Pig Disease" (Illustrated) and "Ketosis."

Cliff D. Carpenter: "National Poultry Viability Program."

E. H. Peterson: "Iodine Deficiency" (Illustrated), "Paralysis in Swine," and "Swine Erysipelas."

L. M. Hutchings, Purdue University: "Swine Brucellosis."

R. B. Allen, College of Medicine, University of Illinois: "Animals in the Progress of Experimental Medicine."

C. E. Fidler, state veterinarian, and A. K. Kuttler of the BAI, spoke on "The Brucellosis Program in Illinois."

The day's work was opened by greetings from Dean R. P. Rusk of the College of Agriculture.

Addresses were made by President Bower, Executive Secretary Hardenbergh, and Editor Merillat of the American Veterinary Medical Association.

• • •

**Chicago Association.**—"Pathogenic fungi" by Professor S. Rothman, M.D., University of Chicago, Department of Medicine, was the attraction of the October meeting.

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**Mississippi Valley Association.**—An outstanding session of a local association will be that of the Mississippi Valley Veterinary Medical Association in Galesburg, Nov. 17-18, 1943—outstanding because of the talent arrayed on the program: Jas. Farquharson, Fort Collins, Colo., president-elect of the AVMA; I. Forrest Huddleson, Michigan State College, distinguished scientist on brucellosis; C. R. Donham, Purdue University, prominent figure in the field of bovine reproduction; H. E. Pinkerton, Fort Dodge, Iowa, Fort Dodge Serum Company; H. C. Smith, Sioux City, Iowa, Allied Laboratories.

Dr. Farquharson will give an illustrated lecture on large animal surgery, Dr. Huddleson will speak on "Master the Unconquerable," Dr. Donham on bovine sterility and mastitis, Dr. Smith on fungus diseases of dogs, cats and foxes, Dr. Pinkerton on swine diseases. C. E. Fidler, chief veterinarian of Illinois, will speak on brucellosis control, and W. W. Warnock, secretary of the Illinois State Board of Veterinary Examiners, on the feeding of swine.

### Iowa

**Eastern Iowa Association.**—The thirtieth annual meeting of the Eastern Iowa Veterinary Association held at Cedar Rapids Oct. 12-13, 1943, rates among the largest meetings of its long history. The attendance was: men 231, women 116, banquet 270, total 347. R. E. Elsen, Vinton, was elected *president*, C. C. Graham, Wellsburg, *secretary*, and A. R. Menary, Cedar



Rapids, treasurer. Further reports will be recounted in an early issue.

• • •

**Coon Valley Meeting.**—The autumn meeting of the Coon Valley Veterinary Medical Association was held at Storm Lake, Sept. 8, 1943. Attendance 50. Guest speaker, J. A. Barger, president, and C. C. Frank, secretary of the state association, and W. E. Petersen, University of Minnesota. The chief officers of this local are A. F. Burger, secretary, and C. A. Brecher, president.

• • •

**Upper Iowa Association.**—The annual meeting of the Upper Iowa Veterinary Medical Association was held at Mason City, Sept. 9, 1943. Attendance 40. Guest speaker, Professor W. E. Petersen, University of Minnesota, who in speaking for two hours on bovine mastitis, attributed the high incidence of the disease to traumatism of the accessory glands at the base of the teats by hand milkers and milking machines. The injured glands pave the way for the infection, Professor Petersen pointed out. Infusions of aqueous suspension of sulfanilamide, 50 Gm. to each quarter, followed with injections of tap water to drive the suspension higher up, was the treatment recommended.

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Hilton A. Smith, D.V.M., M.S., associate professor of veterinary pathology at the Colorado State College has been appointed associate professor of veterinary pathology at the Iowa State College, replacing Russell A. Runnells, D.V.M., M.S., who accepted the position as head of the department of veterinary anatomy at the Michigan State College.

### Kansas

Dr. C. L. Paulsen, formerly of Moberly, Mo., has purchased the Iola Animal Clinic from Dr. Chas. W. Jackson, who has retired.

### Louisiana

Frank Collins, a veteran veterinarian of Monroe, La., is making a gradual recovery from two major operations.

Dr. R. Jensen, formerly on the staff of the Louisiana State University, is now with the Utah Agricultural Experimental Station at Cedar City. He is succeeded by Dr. Paul L. Piercy, formerly of the Texas Experiment Station.

• • •

A. H. Groth, head of the department of veterinary science of the State University reports receiving a long letter from Lt. W. T. Oglesby

who is serving with the Veterinary Corps in the foreign field.

### Maine

**State Association.**—The summer meeting was held at P. R. Baird's hospital in Waterville, July 14. . . . Attendance 28. . . . Clinical demonstrations on small animals were given by Drs. Potter and Merrill. . . . A business session was held on the lawn of Dr. Baird's home. . . . Felicitations were framed and sent to John R. Mohler. . . . G. M. Potter was chosen delegate and H. N. Eames alternate to the House of Representatives of the AVMA. . . . Dr. Eames headed a discussion of the state's Bang's disease control program. . . . A banquet was held at Elmwood followed by the reading of papers:

Gordon M. Cairns, University of Maine: "The Problems of Feeding Swine in Wartime."

Ralph Cordon, dairy extension specialist, University of Maine: "The Progress and Problems of Artificial Breeding in Maine."

C. L. Martin, Rochester, N. H.: "How I Handle Breeding Difficulties in New Hampshire."

S/J. F. WITTER, Secretary-Treasurer.

• • •

The state department of animal industry has passed a regulation making it legal to pay indemnity for Bang's disease reactors in dealers' herds, to require a health chart, and to compel the dealers to indicate whence the reactors came.

### Michigan

**Penicillin Production Improved.**—Parke, Davis & Company have developed a streamlined process of producing the miracle drug, penicillin, in two and a half to three days as compared with the six and a half to fourteen days previously required. Inasmuch as this precious drug has been scarce owing to cumbersome methods, the new process promises to be a substantial step forward in penicillin production. General Manager Homer C. Fritsch announces.

Dr. Charles F. McKhann, professor of pediatrics and communicable diseases, Medical School, University of Michigan, has resigned to accept a position among the scientists of Parke, Davis & Company. Dr. McKhann was once a visiting professor at Peiping Union Medical College, China, and later professor of pediatrics and communicable diseases at Harvard.

### New York

Dr. Ivan G. Howe, former commissioner of county welfare, Allegheny County, has been

appointed director of the bureau of animal industry to succeed Dr. Ernest F. Faulder, retired. The change was effective Sept. 1, 1943.

Ernest T. Faulder retired Sept. 1, 1943, under the New York State Retirement System. Dr. Faulder served his state for twenty years and five months in the capacity of veterinarian, as-



Dr. Ernest T. Faulder

sistant director, and as director of the State Bureau of Animal Industry since Oct. 16, 1925. He also served in the U. S. Bureau of Animal Industry from 1904 to 1923, with stations at Buffalo, N. Y., Kansas City, Mo., East St. Louis, Ill., and Albany, N. Y. He was graduated at the Kansas City Veterinary College in 1908, is a past president and vice president of the United States Live Stock Sanitary Association and has been active in a number of veterinary organizations for many years. Dr. Faulder joined the AVMA in 1908. His present address is 35 East Winspear Ave., Buffalo, N. Y.

**New York City Association.**—The meeting of Oct. 6, 1943; was held at the Hotel New Yorker. The guest speaker was Samuel Frant, A.B., M.D., director of preventable diseases, New York City Department of Health, who spoke on "The Veterinarian in Preventive Medicine." C. E. DeCamp of Scarsdale presented the report of the Committee on Public Relations. Drs. I. W. Goodman and L. A. Corwin presented case reports.

s/C. R. SCHROEDER, *Secretary.*

### New Zealand

R. K. Griesbach (Ont. '42), one of the veterinarians who went to New Zealand last year to accept employment with the Morrinsville Veteri-

nary Association, in a letter enclosing fees for membership, subscription to the American Journal of Veterinary Research, lapel emblem, and other things, writes:

"The New Zealand countryside is beautiful and picturesque and the climate is remarkable, by some regarded as unexcelled. The extensive dairying affords marvelous opportunity for gaining veterinary experience. The percentage of racing-minded people in New Zealand is considered to be the highest. We profit by the experience gained among the Thoroughbreds but our work is mainly confined to dairy cattle due to the scarcity of veterinarians.

The AVMA journal has been arriving regularly, although usually a couple of months delayed in transit."

s/R. K. GRIESBACH, Morrinsville, N. Z.

### Wisconsin

Commenting on President Dimock's remark on decentralization of the veterinary service, *Hoard's Dairyman* expresses approval of the political question involved but adds, and we quote: "We have tuberculosis, for example, well under control but, if neglected, it would not take many years before we would have a considerable number of herds throughout the nation suffering from the disease. We have other diseases which claim many dollars from the farmers." And, so the story goes.

**Community Sales.**—Before purchasing hogs at community fairs or sales pavilions, be sure to obtain information regarding the history of the herd in which the hogs originate. The seller should secure a certificate of health for them from a veterinarian indicating the animals are free from disease and that they have been vaccinated against cholera. In making additions to a swine herd through purchases, it is advisable to completely isolate the purchases for two or three weeks to avoid any chance of introducing disease among the main herd.—*State Veterinarian V. S. Larson, as quoted in Hoard's Dairyman.*

**Vaccine for Brucellosis Control.**—Under date of September 3, Chief V. S. Larson sent the following letter to the accredited veterinarians of the state:

In compliance with the statute enacted by the 1943 legislature, the Wisconsin State Department of Agriculture now carries a stock of approved Bang's disease vaccine for distribution at cost to the accredited veterinarians of this state.

This vaccine is being purchased from the American Scientific Laboratories at Polo, Ill. It is all manufactured under the inspection and the license of the Bureau of Animal In-

dustry of the United States Department of Agriculture. This laboratory does not sell any of its products at retail.

We are now prepared to supply this vaccine to you at twenty cents (20c) per dose when ordered for shipment in lots of less than ten doses, and at eighteen cents (18c) per dose when ordered for shipment in lots of ten or more doses. In order to be able to maintain these prices to you, cash must accompany the order or it will be necessary that we ship the vaccine to you C.O.D.

In using this vaccine, you may feel confident that the product has been approved for distribution and that it has been maintained in a manner necessary to assure its value and potency.

S/V. S. LARSON, Chief,  
Division of Livestock Sanitation.

## COMING MEETINGS

Interstate Veterinary Medical Association. Annual meeting, Hotel Warrior, Sioux City, Iowa, Nov. 4-5, 1943. E. D. McCauley, Sioux City, Iowa, secretary.

Midwest Small Animal Association. Annual meeting, Hotel Burlington, Burlington, Iowa, Nov. 11, 1943. Wayne H. Riser, 17th St. at Ingersoll, Des Moines, Iowa, secretary-treasurer.

Missouri Veterinary Medical Association. Columbia, Mo., Nov. 15-16, 1943. J. L. Wells, 1817 Holmes St., Kansas City, Mo., secretary.

Mississippi Valley Veterinary Medical Association. Fall meeting, Custer Hotel, Galesburg, Ill., Nov. 17-18, 1943. L. A. Gray, Bushnell, Ill., secretary.

National Assembly Chief Livestock Sanitary Officials. LaSalle Hotel, Chicago, Ill., Nov. 30, 1943. R. A. Hendershott, Trenton, N. J., secretary-treasurer.

American Society of Animal Production. Sherman House, Chicago, Ill., Nov. 30-Dec. 1, 1943. A. D. Weber, Kansas State College, Manhattan, Kan., secretary.

United States Livestock Sanitary Association. LaSalle Hotel, Chicago, Ill., Dec. 1-2-3, 1943. R. A. Hendershott, Trenton, N. J., secretary-treasurer.

University of Pennsylvania. Annual Conference for Veterinarians. Jan. 4-5, 1944. G. A. Dick, dean, School of Veterinary Medicine, Philadelphia 4, Pa.

Ohio State Veterinary Medical Association. Deshler-Wallick Hotel, Columbus, Ohio, Jan.

5-6, 1944. R. E. Rebrassier, The Ohio State University, Columbus, Ohio, secretary.

Cornell University. Annual Conference for Veterinarians. Ithaca, N. Y., Jan. 5-7, 1944. W. A. Hagan, dean, Veterinary College, Ithaca, N. Y.

Oklahoma Veterinary Medical Association. Twenty-ninth annual meeting, Oklahoma City, Okla., Jan. 10-11, 1944. F. Y. S. Moore, McAlester, Okla., secretary-treasurer.

Indiana State Veterinary Medical Association. Severin Hotel, Indianapolis, Ind., Jan. 11-12-13, 1944. C. C. Dobson, New Augusta, Ind., secretary-treasurer.

Illinois State Veterinary Medical Association. Annual meeting, Leland Hotel, Springfield, Jan. 20-21, 1944. C. C. Hastings, secretary-treasurer.

Iowa Veterinary Medical Association. Jan. 25-27, 1944. C. C. Franks, 720 Grand Ave., Des Moines, Iowa, secretary.

## DEATHS

A. D. Glover (K. C. V. C. '11), 77 years old, died Oct. 8, 1943, at Bethel, Mo. Dr. Glover suffered a stroke on Oct. 2 while engaged in veterinary work near Bethel, Mo. He is survived by his widow and two sons, one of whom, Dr. A. D. Glover, Jr., a veterinarian of Canton, Mo., is with the armed forces and stationed in Australia.

Frank E. Walsh (I. S. C. '18), 50 years old, died at Iowa City, Iowa, Oct. 7, 1943. Dr. Walsh had been professor and head of the department of veterinary obstetrics at Iowa State College since 1931. He was born at Garner, Iowa, in 1893. He had been a member of the AVMA since 1919.

E. L. Loblein (U. P. '10), died June 6, 1943, at Point Pleasant Beach, N. J. Immediately upon graduation from the University of Pennsylvania, Dr. Loblein succeeded to the practice of his father, who was a well-known veterinarian at New Brunswick, and built it into one of the largest in the state. He had served in the state assembly from Middlesex county for two years, as a member of the Middlesex county board of freeholders, and as vice-president and a member of the board of directors of the Ocean National bank. He was also an active member in many civic organizations for many years.

William Ross Cooper (I. S. C. '92), 74 years old, died Sept. 24, 1943, in Kansas City, Kans. Dr. Cooper had resided in Kansas City for fifty years. Before retiring, he had served as inspector of the Bureau of Animal Industry thirty-five years, chiefly in Kansas City. He was a member of the Invanhoe Masonic Lodge.



# THE VETERINARY PROFESSION AND THE WAR

## Report on the Veterinary Student Situation

During the War Conference in St. Louis in August, a conference of deans and other representatives of veterinary schools was held to discuss problems facing the colleges with respect to continued inflow of students needed to maintain essential civilian services. Also present at the conference were Brig. Gen. R. A. Kelsner, chief of the Veterinary Division, Surgeon General's Office, members of the Committee on Education, the Board of Governors and other interested individuals. As a result of the discussions, a committee was designated to confer in Washington with officials of the Selective Service System, War Manpower Commission, and the officials of the Army Specialized Training Program. The committee, which included Dean O. V. Brumley, Ohio State University, Déan W. A. Hagan, Cornell University and J. G. Hardenbergh, met in Washington on September 15-16, 1943 and, as a result of its conferences and deliberations, drafted the following report. While the report may be of primary interest to veterinary deans and college officials, it contains information which should be known to the profession at large and to prospective veterinary students. Accordingly, the committee has approved publication of the report which follows:

Report to Veterinary Deans by the Committee Appointed at the August 25 Conference in St. Louis

### I. SOURCE OF FUTURE STUDENTS IN VETERINARY MEDICINE

As a result of the conferences held in Washington with various officials, it was made clear that there is no hope of continuing the ASTP or any other training program under war department auspices other than that in operation at the present time. Reason: Army needs for veterinary personnel will be more than met for several years by the AST program now in operation. Such being the case, it was pointed out to the Committee that future provision for meeting civilian needs would have to be made through agencies of the War Manpower Commission. This means that future students in veterinary medicine will have to obtain their education as civilians. Therefore, such students will of necessity be under the jurisdiction of

Selective Service and subject to the decisions of local draft boards.

The schools will have to be governed, in individual student cases, by the judgment and decision of the student's Selective Service Local Board. Under such conditions, uniformity of treatment cannot be expected except as local board decisions are affected by advisory memoranda issued by the national headquarters of Selective Service. Pertinent to this particular situation and final in application is "Activity and Occupation Bulletin No. 33-6; Subject: Educational Services—Student Deferment," (sections A, C and E, especially) issued by National Headquarters, Selective Service System, under date of March 1, 1943. (The paragraphs in question are reproduced at the end of this report.)

In this connection, it should be noted that the advisability and desirability of a special memorandum dealing with preveterinary and veterinary students only and to be issued by Selective Service, was discussed with officials. The committee was told that the matter would be considered but that favorable action is unlikely; there is reluctance and even actual resistance on the part of Selective Service to the issuance of any additional memoranda dealing with special groups since Bulletin No. 33-6 is considered relevant and final.

The significance of all this with respect to veterinary student prospects is simply this: Future matriculants will have to be selected prior to the time that they are classified by their draft boards, in order to bring them (the matriculants) under the provisions of Bulletin No. 33-6. Since classifications will ordinarily be made soon after the attainment of age 18, it will mean, in many cases, that future students will have to be accepted on the basis of high school records, rather than waiting for college records. It is to be noted that Bulletin No. 33-6 covers accepted students for a period not to exceed 24 months prior to their matriculation in the professional (veterinary) school. (See section C, paragraph 1, subparagraph (a)). Such acceptances are conditioned, of course, upon the completion by the student of all

entrance requirements prior to the date for which he has been accepted to enter school.

It will be seen from the above that, if veterinary schools are to reasonably fill their future entering classes, they will be obliged to accept many students immediately or shortly after graduation from high school and prior to completing their preveterinary courses.

## II. SUGGESTED PROCEDURES

As a result of the conference with Selective Service officials, the following procedures are suggested.

- 1) That students be selected prior to attainment of age 18, and provisional acceptances be issued to them.

- 2) That accepted students be advised to immediately inform the dean of the veterinary school by which they have been accepted as soon as they register under Selective Service, giving the number and address of their local board.

- 3) That the dean of the school then communicate immediately with the registrant's Selective Service local board before the accepted student is classified, if possible, informing the Board that the student has been accepted and requesting that consideration be given to an occupational classification in accordance with provisions of Selective Service Activity and Occupational Bulletin 33-6.

- 4) In case the accepted student is classified in class I-A he has the right, under the law, to appeal this classification within ten days from the mailing of the notice of classification. If he is reluctant or unwilling to appeal his own case, the dean of the veterinary school may initiate the appeal for him, or if the registrant is a preveterinary student in another university, request that university to initiate the appeal. In case the Board of Appeals retains the registrant in class I-A, representation can then be made to the state director of the Selective Service System, with the request that an appeal to the President be taken.

Since many accepted students will be unwilling to appeal from the decisions of their local boards, but would be willing to have the institution appeal in their behalf, it is believed desirable that accepted students understand the situation and decide whether they are willing that this be done.

## III. ACTION BY DIRECTING BOARD, P & A SERVICE

Dr. M. E. Lapham, executive officer of the Procurement and Assignment Service, was very sympathetic and helpful in his understanding of the problems facing the veterinary service and veterinary education. He offered to present to the Directing Board of Procurement and Assignment the fact that veterinary medicine is the first of the medical groups to face the pos-

sibility of a markedly reduced or interrupted flow of students with consequent serious impairment of the supply of trained personnel for civilian needs, this situation arising from the limitations on veterinary training under army sponsorship. It is recognized that army needs for veterinary personnel have been fully and liberally provided for under ASTP, that dentistry will in the near future reach the same point now faced by veterinary medicine, but that needs of the armed forces for physicians will not be met in the near future.

In view of this situation, Dr. Lapham suggested that the Directing Board direct a communication to the Selective Service administration urging consideration of ways and means for assuring a continued supply of trained veterinarians to meet civilian needs. Such a communication would no doubt be valuable in supporting the helpful attitude already shown by Selective Service.

## IV. THE ARMY SPECIALIZED TRAINING PROGRAM

The entire AST program was discussed with Brig. Gen. R. A. Kelsor, Veterinary Division, Surgeon General's Office, and Col. Francis M. Fitts, Chief, Medical Section, Curricula and Standards Branch, Army Specialized Training Division. In order that all veterinary deans may understand the pertinent facts brought out in the conference, they are repeated here.

- 1) ASTP training in veterinary medicine is restricted to those students already in the program and to those prospective students who were in the ERC, who registered as preveterinary students, and who were accepted by one of the recognized veterinary schools prior to their call to active duty.

This means that enlisted men already in the Army will not be approved for specialized training in veterinary medicine under ASTP even though they may be erroneously certified for such training by units of the several service commands. In other words, no more students will be approved for veterinary training under army auspices. Deans should not accept any students who are now in active military service.

- 2) The Committee was informed that it was the intention of ASTP to give "Pfc" ratings to all men in advanced training and that the medical branches (medicine, dentistry and veterinary medicine) are considered to fall in this category.

For this reason, it is suggested that deans of schools where this rating has not been given take the matter up with their respective service commands through their commandant.

- 3) Under the policy whereby the Army provides textbooks to students, it will discourage the purchase of books by the students to serve as a nucleus for a personal, professional

library. There can be no change in the policy inasmuch as the Army is obligated to supply to enlisted personnel (non-commissioned) the clothing, equipment and any other supplies necessary to their duties while under army orders. However, it was recommended that the procedure regarding procurement of textbooks might well receive serious consideration and attention by the deans and students.

Col. Fitts suggested that the faculties point out to students the importance of accumulating books for reference use during student days and urge all classes to purchase their own books as they go along instead of using those issued by the Army. Such purchases can be made without any financial strain on the students simply by voucher charges against the pay of the student. Where books issued by the Army are damaged by the student beyond the ordinary wear and tear, they will of course be charged to him anyway.

We concur in the recommendations of ASTP officials and believe the matter is of sufficient importance to justify urging students to acquire their own books. In at least two schools where the situation has been discussed with the classes, not a single student requested that the government buy books for him. The same might well apply to certain instruments essential to civilian practice. It is obvious that most students under ASTP are better able to make book purchases than they ordinarily would have been or will be when they begin their professional careers as civilians. Moreover ASTP officials point out the desirability of encouraging students to invest some of their pay in books as a helpful measure in reducing certain "extra-curricular" tendencies.

Respectfully submitted,  
S/O. V. BRUMLEY,  
W. A. HAGAN,  
J. G. HARDENBERGH.

National Headquarters  
SELECTIVE SERVICE SYSTEM  
Washington, D. C.

March 1, 1943.

Activity and Occupation Bulletin No. 33-6  
Subject: Educational Services—Student Deferment

#### PART 1. POLICIES THAT APPLY TO THIS ACTIVITY

In addition to general policies, the following provisions and procedures apply to this activity:

##### A) General Policy on Student Deferment:

The War Manpower Commission has certified that there exists a serious need for additional persons in scientific and specialized fields and in certain of the professions. They are needed

to perform vital services in activities essential to war production, to the support of the war effort, and in activities, the maintenance of which is necessary to the health, safety, and welfare of the Nation.

The subject of this bulletin covers the eligibility of certain students for deferment. Careful consideration for occupational deferment should be given students included herein.

(Section B omitted.)

#### C) Students, Medical, Dental, Veterinary, Osteopathic, Theological:

1) Undergraduate, preprofessional students—A student in premedical, pre dental, preveterinary, preosteopathic, and pretheological fields should be considered for occupational classification if he is a full-time student in good standing in a recognized college or university, and if:

- (a) It is certified by the institution in which he is pursuing the preprofessional course of study that if he continues his progress he will complete such preprofessional course of study within 24 months, and
- (b) It is certified by a recognized medical, dental, veterinary, osteopathic, or theological college that he is accepted for admission and will undertake professional studies upon completion of his preprofessional work.

2) Students in professional schools—A registrant who is in training and preparation as a medical, dental, veterinary, or osteopathic student in a recognized medical school, dental school, school of veterinary medicine, or school of osteopathy (a student preparing for the ministry in a theological or divinity school recognized as such a school prior to September 16, 1939, is exempt from training and service under the provisions of the Selective Training and Service Act of 1940) should be considered for occupational classification during the period of such professional course, provided he is a full-time student in good standing, and if:

- (a) He continues to maintain good standing in such course of study, and
- (b) It is certified by the institution that he is competent and gives promise of the successful completion of such course of study and acquiring the necessary degree of training, qualification, or skill to become a recognized medical doctor, dentist, doctor of veterinary medicine, or osteopath.

3) *Internes*.—A registrant who has completed his professional training and preparation as a medical doctor, dentist, or osteopath, and who is undertaking further studies in a hospital or institution, giving a recognized internship, should be considered for occupational



classification so long as he continues such internship, but for a period not to exceed one complete year.

(Section D omitted.)

*E) Opportunity to Engage in Profession:*

When a registrant has completed his training and preparation in a recognized college or university, or his internship, and has acquired a high degree of training, qualification, or skill, such registrant should then be given the opportunity to become engaged in the practice of his profession in the armed forces or in an essential civilian activity. In many instances following graduation from a recognized college or university, or the completing of an internship, a certain period of time will be required in the placing of such persons in an essential activity. When a registrant has been deferred as a necessary man in order to complete his training and preparation, it is only logical that his deferment should continue until he has had an opportunity to put his professional training and skill to use in the best interest of the nation. Accordingly, following graduation in any of these professional fields or following an internship, a registrant should be considered for further occupational classification for a period of not to exceed 60 days in order that he may have an opportunity to engage in a critical occupation of his profession in the armed forces or in an essential civilian activity, provided that during such period the registrant is making an honest and diligent effort to become so engaged.

## The Veterinarian's Relationships

Col. Jesse Derrick\* and Capt. Wayne O. Kester of the Veterinary Corps, U. S. Army, in an article on food inspection published in the *Veterinary Bulletin* of January, 1942, stress the importance of "veterinary-quartermaster relationship", obviously without the intention of laying down a policy touching every branch of the veterinary service. The relationship mentioned is pronounced "of paramount importance". The idea is to "get along" with those for whom we work, for throughout the field of applied veterinary science cordial relations are indeed paramount in the interest of mutual benefits. In the broad field of practice, the "veterinary - agriculture relationship" predominates and is no less important than the one these veterinary officers single out.

\*Colonel Derrick, then Major Derrick, was division veterinarian of the famous 3rd Division in the American Expeditionary Forces of 1918.

Inasmuch as ours is a technical task beyond the ken of the employer, it is imperative to develop the fine art of making big decisions with as little friction as possible. Umpires were never popular, since in the rôle of expert there are the hair-splitting as well as the incomprehensible decisions to be made. In the case of food inspection in the Army everything connected with the whole procedure (specification, bids, source and the food itself) is regarded significant if the officer is to attain maximum usefulness to the quartermaster who, although the responsible procurement officer, looks to the veterinary inspector for expert guidance, even to the extent of canvassing local markets for supplies and passing judgment on their sanitary condition.

In regard to the "veterinary-contractor relationship" cordiality is no less in order. "Every man is a gentleman until proven otherwise" expresses the idea conveyed, and the inspector should consider the contractor's position and honor his point of view. The contractor is an invited person. With this type of excellent philosophy out of the way, the authors go about explaining how soldiers' food should be inspected: beef, mutton, veal, dressed poultry, eggs, butter, cheese, fish, canned goods, corned beef, pork cuts, ham, bacon and miscellaneous food products.

The following gems are interpolated through the article:

A large percentage of contractors do their best. Advise against unnecessary expense of packing and delivery.

Some department heads try to make a record by throwing in inferior products.

Settle minor discrepancies with the contractor; don't bother the higher-ups.

Don't pass the buck to subordinates.

Don't lose your temper; some contractors like heated controversies which put the inspector in a bad light.

Coöperate with the mess officer; sometimes the cook is at fault.

The veterinary inspector is not only a meat and sanitary inspector. He is also a liaison officer for purchasing agencies and contractors. The veterinary officer who keeps abreast with trends knows what's going on in the meat and food industries, local and national.

Knowledge about food is sought by the lowest-ranking clerk, contractor and commanding officers.

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# COMMITTEE REPORTS

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Adopted at the Eightieth Annual Meeting  
August 25-26, 1943

## *Standing Committees*

### Education

In the nine months from Aug. 31, 1942 to May 1, 1943, 126 deaths of veterinarians have been reported in the veterinary journals, an average of about 15 per month. The number of veterinarians retiring from practice is not available. A considerable number of veterinarians had entered military service up to Dec. 31, 1942; according to an official memorandum from the Officer Procurement Service, the 1943 quota for additional veterinary officers was set at 900.

#### THE ACCELERATED CURRICULUMS

As of May 1, 1943, approximately 415 veterinarians have graduated from nine accredited veterinary colleges in the United States since the last report of this committee. Because the College of Veterinary Medicine, State College of Washington, was moving into new buildings during the summer of 1942, it was not practicable for this college to enter upon the accelerated course at that time. The two Canadian accredited colleges have continued the regular four-year course; together, they will graduate about 55 veterinarians this year. Altogether, there will be graduated in the calendar year 1943 approximately 800 to 900 newly trained veterinarians.

The attention of the various state examining boards and similar authorities is again directed to the rules and regulations covering qualifications for practice. Some states specify that applicants must be graduates of a four-year course in veterinary medicine. Such requirements should be changed to meet present conditions; otherwise, graduates of the accelerated course cannot take the examinations.

An inquiry was sent to the deans of all the accredited veterinary colleges in the United States, asking for their opinion as to the results of the accelerated course. The consensus of opinions is that the accelerated course is meeting war needs, but as soon as the emergency is over, the schools should return to the four-year course as this is more satisfactory.

The four-year course allows more time for needed clinical instruction, and faculty members need more time for research work and vacations.

Another problem which has arisen in connection with the accelerated course and has caused considerable anxiety to a number of deans is that of the preveterinary classes to enter about January, 1944. Replies to a letter sent to all deans, requesting information on this subject, indicate that these classes will be unusually small. It was hoped that qualified young men already in the military service who desired to study veterinary medicine might be detailed for that purpose. However, in reply to an inquiry, General Kelser, Director of the Veterinary Division, Surgeon General's Office, stated:

"The matter of preveterinary students, I am afraid, is going to present a considerable problem from the standpoint of our veterinary colleges. I can best make this clear by giving you a few pertinent facts. Essentially, all physically qualified students now actually pursuing the regular course in our veterinary colleges are eligible to continue under the Army Specialized Training Program. The number of such students is such as to more than meet our estimated filler and replacement requirements for a number of years. Under these circumstances, the Army could not justify the training of preveterinary students at War Department expense. Some time ago, it was possible for individuals to enlist in the Enlisted Reserve Corps for the purpose of obtaining premedical, preclinical, and preveterinary training. This was subsequently stopped, insofar as preveterinary students were concerned. However, those who have already been accepted and who can qualify under the Army Regulations for admission to veterinary colleges and who are chosen to fill vacancies will be supported by the Army. Every possible effort should be made to obtain deferment by Selective Service of preveterinary students who are not in the En-

listed Reserve Corps. If such students are inducted under present circumstances, they cannot be trained under the Army Specialized Training Program."

Another source indicates that the Army replacement and filler requirements will be about 150 veterinarians per year.

#### VETERINARY EDUCATION AND MILITARY SERVICE

Memorandums issued by Selective Service headquarters to local draft boards in May, 1941, and again in January, 1942, officially recognized a shortage of veterinarians and the importance of the profession to the war effort by recommending that veterinarians engaged in farm practice and veterinary students in approved schools be granted deferred classifications. In April, 1942, an order was issued by the Adjutant-General permitting the commissioning of veterinary students in approved schools as Second Lieutenants, Medical Administrative Corps, Army of the United States, thus placing veterinary students in the same preferred category as students of medicine and dentistry. A requirement for these commissions was that the applicants must be pursuing accelerated curriculums by which the usual four years work could be completed in about three. By this time, all of the approved schools had plans under way for such acceleration and all veterinary education in the United States has been on this basis since the summer of 1942. All students who were recommended by their deans were granted these commissions. The holders were not permitted to wear uniforms, were not required to perform military service, and were not paid. The commissions did not change the nature of the students' lives in any particular except to relieve them of the uncertainties with respect to military service that most of them faced previously. The commissions gave them assurance that they would be allowed to complete their professional education before being called into the service. These commissions terminate three months after their education has been completed.

Prior to the time when the students were commissioned, a few were drafted by their local boards in spite of official advice to the contrary. Since the above-mentioned order was put into effect, the student bodies of approved veterinary schools have been protected and have remained intact. The protection of the student bodies has operated also to protect, in large measure, the faculty members of our schools who were of draft age. This has been aided by the Procurement and Assignment Agency for Physicians, Dentists, and Veterinarians of the War Manpower Commission in classifying as essential those faculty members who were considered indispensable to the teaching forces.

During the fall of 1942, the Army and Navy

formulated their specialized training programs for sponsoring the education of enlisted men in the fields where specialized trainings were needed and could best be done by established educational institutions rather than by the armed services themselves. The basic plans were announced in a joint Army-Navy statement in December, 1942. These plans included not only medicine, dentistry, and veterinary medicine, but the premedical, pre-dental, and preveterinary college training as well. According to this plan, contracts are to be made with designated educational institutions for the types of instruction desired. In the case of veterinary medicine, contracts will be made only by the Army since the Navy does not employ veterinarians in a professional capacity. It is understood that contracts will be made with all approved veterinary schools, and some of them have already been designated for such contracts.

In preparation for the new procedures, additional commissions in the Medical Administrative Corps were discontinued in February, 1943, but those who already held such commissions were permitted to continue with them. At the end of the first term beginning in 1943, these students were permitted to resign their M.A.C. commissions and apply for active service in the Enlisted Reserve Corps as privates. Following acceptance, they were inducted into active service and assigned to the institutions where they were already enrolled, or elsewhere, to continue their education. These men will be in uniform and, when practicable, will be housed in military manner in barracks and fed in messes; otherwise, they will be placed on commutation of quarters and rations. They will receive the pay of a private and will be required to undergo some military training, but this is to be secondary to their regular, professional class-room studies. The curriculums of the veterinary courses will not be changed in any important particulars, except that instruction must be practically continuous, with new matriculating classes and graduating classes at nine-month intervals.

It is understood that the premedical, pre-dental, and preveterinary programs will be identical, and will consist (Army program) of six twelve-week terms of college work, largely prescribed. The first two of these terms will be of fundamental subjects required of students in all of the specialized programs, pre-engineering, prechemical, prephysical, etc., as well as the premedical. So far as veterinary medicine is concerned, this preprofessional training will represent a considerable advance over the present requirements. It places veterinary medicine on the same basis as medicine and dentistry.

The veterinary colleges probably will select all, or at least most, of their entering students



during 1943 and possibly during 1944 as well. Those selected before the Army Specialized Training Program becomes fully operative will be called to active service at the end of the first complete term in 1943 and will be assigned to the college which selected them as members of the Enlisted Reserve Corps. This applies, of course, only to males capable of passing the physical examination required by the Army. Males who are physically unfit and who are now in the Medical Administrative Corps may remain in this Corps and others may continue their studies as civilians. As soon as the Specialized Training Program becomes fully operative, it is the Army's intention to select veterinary and preveterinary students from the ranks of those who have completed or are completing the period of basic training. The method of selection has not been announced, but it has been intimated that the advice of educators will be sought with regard to this matter. It is unlikely, under this plan, that institutions will have any part in selecting their own students, other than those who are not in military service and for which they may have room after the Army contingents have been accommodated. As candidates are selected by the Army, which probably will be a continuous process, they will be assigned to the first school which is ready for a matriculating class and which has an unfilled Army quota.

This report is being written in April, 1943. New decisions are being made daily, and plans are being changed from time to time; hence, what has been written here is likely to require revision before this report is presented. If this is the case, an addendum will be made containing revisions and additions.

A number of teachers from the various veterinary colleges have entered military service. In some instances this has seriously impaired the teaching force, and on the whole, it has necessitated more changes in the teaching staff than usual.

The veterinary college of Washington State College has occupied their new modern quarters, consisting of a two-story clinic building with separate large-animal hospital and a four-story building for various departments.

Colorado State College has made an extensive addition to their large-animal ward and the Alabama Polytechnic Institute has added an outside kennel for their small-animal clinic. The University of California has been given an appropriation of \$500,000 toward the establishment of a veterinary college, but its development will probably remain dormant for the duration of the war.

Only one veterinary college has been visited during the year. Alabama Polytechnic Institute asked for assistance and Dr. E. T. Hallman made the trip. His services were appreciated.

The Committee recommends that the following colleges be placed on the accredited list of this association for the coming year and their graduates be eligible for membership in this association:

- 1) Alabama Polytechnic Institute, Division of Veterinary Medicine.
- 2) Colorado State College, Division of Veterinary Medicine.
- 3) Ecole de Médecine Vétérinaire de la Province de Quebec, Université de Montréal.
- 4) Iowa State College, Division of Veterinary Medicine.
- 5) Kansas State College, School of Veterinary Medicine.
- 6) Michigan State College, Division of Veterinary Medicine.
- 7) New York State Veterinary College, Cornell University.
- 8) The Ohio State University, College of Veterinary Medicine.
- 9) Ontario Veterinary College, University of Toronto.
- 10) University of Pennsylvania, School of Veterinary Medicine.
- 11) Texas Agricultural and Mechanical College, School of Veterinary Medicine.
- 12) State College of Washington, College of Veterinary Medicine.

*s/N. S. MAYO, Chairman*

W. A. HAGAN  
E. T. HALLMAN

L. M. HURT  
C. D. MCGILVERAY

## Resolutions

### Resolution No. 1

WHEREAS, God in His wisdom has seen fit to call to his reward Dr. M. Jacob, Knoxville, Tenn., who died after a brief illness on Mar. 22, 1943, and

WHEREAS, Dr. Jacob would have completed, in six months, more than twenty-five years of uninterrupted service as treasurer of the American Veterinary Medical Association, and

WHEREAS, he was held in high esteem not only by the members of the American Veterinary Medical Association, but by the veterinary profession and the University of Tennessee, where he had served as dean of the College of Agriculture since 1937—a man of great honor and rare ability, who worked unceasingly in his own state for economic benefits and public health—be it

RESOLVED, that the American Veterinary Medical Association, in convention assembled, does hereby express its sorrow and mourn with

his friends and family at his passing, and be it further

RESOLVED, that a copy of these resolutions be sent to Dr. Jacob's family.

### Resolution No. 2

The Association views with deepest concern that part of the reorganization order of Dec. 5, 1942, affecting the United States Department of Agriculture, which transferred the administration of the meat-inspection service from the Bureau of Animal Industry to the Food Distribution Division. It feels that the action was unwise in that no apparent improvement in the meat-inspection service has resulted and, on the other hand, the disease-control service has been greatly weakened by being deprived of control of a large group of trained veterinarians who, in great animal-disease emergencies can be quickly rallied to cope with situations as they arise in different parts of the country. Furthermore, the force of veterinarians in the meat-inspection service has always been the principal means by which the disease-control agency has gathered information on the extent and distribution of animal diseases. It does not appear wise to separate functions which are so closely related. Therefore, be it

RESOLVED that this Association direct its executive secretary to communicate its opinion to the Secretary of Agriculture and the administrators of the Food Distribution and Research Divisions, respectively, of the Department of Agriculture, expressing the hope that as soon as is practicable, the meat-inspection service be re-established as a division of the Bureau of Animal Industry.

### Resolution No. 3

WHEREAS, the American Veterinary Medical Association is fully conscious of the sympathetic interest and wisdom exhibited at all times, and especially during the emergency, by the Surgeon General of the United States Army and by Brig.-General R. A. Kelser of the Veterinary Corps, in their attitude toward the veterinarian and the student of veterinary medicine, and be it

RESOLVED, that the American Veterinary Medical Association, in convention assembled, does hereby express its sincere appreciation of the sane and constructive efforts of the Surgeon General of the United States Army and of Brig.-General R. A. Kelser of the Veterinary Corps of the Army in offering veterinarians these opportunities by means of which they are placed in a position to do the greatest good in the national effort, and be it further

RESOLVED, that the veterinarians of America pledge their best and untiring efforts to warrant a continuance of the confidence exhibited in them by the Surgeon General of the

Army, and by his chief of the Veterinary Corps, Brig.-General R. A. Kelser.

### Resolution No. 4

WHEREAS, the American Veterinary Medical Association has selected St. Louis as the meeting place for the 1943 war conference, and the city has extended its facilities for this meeting, and

WHEREAS, local organizations have so generously given of their time and energies in making this meeting a success, be it

RESOLVED that the American Veterinary Medical Association does hereby express its sincere appreciation to the local committee on arrangements, the St. Louis Convention Bureau, the Press, Radio Stations and the management of the Jefferson Hotel.

s/ A. J. DURANT, *Chairman*

R. R. DYKSTRA  
W. L. GATES  
S. W. HAIGLER

ASHE LOCKHART  
A. W. MILLER  
H. A. SEIDELL

## Biological Products

The Committee on Veterinary Biological Products has not been able to make progress during the past year in the study of biological products for classification as to acceptance by the Association. It has not been practicable to hold a meeting of the Committee, and pressure of more important activities of committee members has prevented us from accomplishing the work which we had hoped to complete.

The result is that the Committee is not recommending for acceptance any products in addition to those which have been accepted in previous meetings of the Association. At this time, we wish to summarize the work of the Committee since its inception by submitting the following list of biological products which have been classified by the Association as acceptable:

### ANTITOXINS

Anaërobic antitoxin.

Antivenin.

Botulinus antitoxin (type A, type B, type C, types A and B, types A, B, and C).

Tetanus antitoxin.

### SERUMS

Antianthrax serum.

Antiblackleg serum.

Anti-bronchisepticus-bacillus serum.

Anti-canine-distemper serum.

Antiencephalomyelitis serum (eastern).

Antiencephalomyelitis serum (western).

Antiencephalomyelitis serum (eastern and western).

Anti-feline-distemper serum.

Anti-hog-cholera serum.

Antistreptococcus serum.  
 Gonadin serum.  
 Normal serum.  
 Anti-swine-erysipelas serum.  
 Anti-hemorrhagic-septicemia serum.

## AGGRESSINS

Blackleg cultural aggressin.  
 Blackleg natural aggressin.

## DIAGNOSTICS

Avian tuberculin.  
 Mallein.  
 Tuberculin.

## TOXOIDS

*Staphylococcus aureus* toxoid.  
 Tetanus toxoid.

## VACCINES AND VIRUSES

Anthrax-spore vaccine.  
*Brucella abortus* vaccine.  
 Canine-distemper vaccine.  
 Canine-distemper virus.  
 Encephalomyelitis vaccine (eastern).  
 Encephalomyelitis vaccine (western).  
 Encephalomyelitis vaccine (eastern and western).  
 Fowl-pox vaccine.  
 Pigeon-pox vaccine.  
 Hog-cholera virus.  
 Ovine-ecthyma vaccine.  
 Rabies vaccine.  
 Fowl-laryngotracheitis vaccine.  
 Feline-distemper vaccine.

## BACTERINS

Autogenous bacterin.  
 Blackleg bacterin.  
*Clostridium chauvet-septicum* bacterin.  
*Clostridium hemolyticum* bacterin.  
*Clostridium novyi* bacterin.

There remain 61 biological products, produced under United States Bureau of Animal Industry license, which have not as yet been recommended for acceptance. Of this group, there are 13 mixed bacterins; 9 antibacterial serums corresponding to the mixed bacterins; 11 bacterins not designated as mixed bacterins, in which two or more antigens are involved; and 4 corresponding serums. In the committee reports of 1940 and 1941, an unfavorable opinion was expressed in regard to the mixed bacterins and corresponding antibacterial serums. In the report for 1942, the Committee classified the bacterins and serums, for which several antigens appear in the names, with the group of mixed bacterins and serums.

Eliminating these 37 multiple-antigen products from present consideration, there remain 24 specific products, involving only one antigen each. Of these, there are three which appear

to be of only historical interest. These are pullorin, blackleg culture vaccine, and blackleg tissue vaccine. This leaves 21 specific products which the Committee has not yet recommended for classification, some of which, no doubt, would have been recommended for acceptance if there had been opportunity to submit them to the necessary study.

The Committee has arranged with the executive secretary of the Association to have available at his office mimeographed lists of accepted products to be supplied to interested persons upon request.

The Committee directs the attention of the Association to the extensive, improper use of several biological products, most of which are included in the group not as yet classified as acceptable. It is our belief that of all the methods of controlling disease, none is more deserving of scientific use than the method which employs the biological products. This involves intelligent diagnosis and the use of products known to have a specific effect in combating specific antigens. But many thousands of animals are treated every year with bacterins which have no relation to any disease-condition which may exist on the premises, or which may be anticipated. The biologics most frequently involved are the hemorrhagic septicemia products and the mixed bacterins. Much of this treatment is administered by the livestock owner without reference to a veterinarian, but in many instances such measures are advised by a veterinarian. But in any case, we submit that the veterinary profession owes it to the livestock industry to take measures to protect them against this unintelligent use of biological products, by educating the stockmen, and, in our own practice, by adhering to a scientific standard in the use of a group of products, the use of which should constitute the most specific of all disease-control methods.

s/HADLEIGH MARSH, *Chairman*

C. C. DOBSON	HARRIE W. PEIRCE
W. S. GOCHENOUR	I. D. SKIDMORE

## Proprietary Pharmaceuticals

The Committee on Proprietary Pharmaceuticals has received no requests for its services during the past year and consequently does not have a report to submit at this time.

The attention of the Association may be directed to the report of last year in which the suggestion was made that this committee be discontinued unless means be provided for the execution of its prescribed duties.

s/R. S. AMADON, *Chairman*

A. N. CARROLL	H. E. MOSKEY
J. V. LACROIX	R. L. MUNDHENK



## Public Relations

The Committee on Public Relations submits the following report to the delegates of the House of Representatives for study prior to the annual meeting.

### PUBLICITY AID PROVIDED TO CONSTITUENT ASSOCIATIONS

Through the efforts of the public relations council and the central office, a "publicity kit" or guide was prepared for use by constituent associations. The kit outlines procedures for publicizing veterinary meetings; a copy was sent to the president and secretary of each state and provincial association several weeks prior to their scheduled sessions. Some of the features are:

- 1) How to Organize a Publicity Program.
- 2) Instructions for the Publicity Committee.
  - (a) Manuscripts or Papers.
  - (b) Local Publicity Committee.
  - (c) Follow-up Work Before and During Conventions.
  - (d) Radio Station Material.
  - (e) Farm Publications.
  - (f) State College News Service.
- 3) Outline of Suggested Subjects for News Stories.
- 4) Suggestions for News Pictures.
- 5) Subjects for Radio Talks and Interviews.
- 6) Suggested News Releases.
- 7) Radio Programs.

Veterinarians who have had opportunity to study thoroughly the publicity kit material feel that it has much value in giving detailed suggestions to the officers of state and provincial associations who may have had little or no experience in publicity work and who need guidance in their efforts toward better publicity for their meetings. Many letters at the central office from constituent associations express thanks for the assistance rendered. It is planned to issue a new kit for the coming year, since conditions change from time to time.

### THE VETERINARIAN'S RÔLE IN FOOD PRODUCTION

It has been stated that "food will win the war and write the peace." This may seem illogical to those engaged in producing the actual weapons of war, but conditions on the food front make this statement a more obvious fact each day. Without an adequate food supply, an otherwise well-equipped army would be impotent; peace can not endure in the presence of hunger or famine. Since much of the food of man, as well as materials for clothing, are of animal origin, the livestock industry plays an important rôle in the nation's health and welfare. So essential are certain animal products that the Government has found it necessary to

ration them during this present emergency in order that critical needs may be met.

Our government is also asking livestock owners and poultrymen to increase the production of their herds and flocks to meet the ever-greater requirements caused by the war. The feeding, care and health of animals is discussed in newspapers, in pamphlets and over the radio. Farmers are advised to vaccinate their hogs against cholera and to use every means available to prevent losses from other diseases, but the service of the veterinarian seldom is stressed in the Government's messages to livestock growers.

The general public is not aware of the functions of the veterinarian. In his book on "Diseases Transmitted from Animals to Man," Hull states that prior to 1850 anthrax was so prevalent in certain countries that agriculture was almost at a standstill. In 1613, in southern Europe, 60,000 people died of this disease; today, in the United States, anthrax is rare. The Committee feels that every veterinarian should help to inform the public on such matters. We should take part in discussions dealing with animal health presented before lay groups.

Disease prevention should receive more attention than any other subject. Other programs similar to the Poultry Viability Program of the U. S. Department of Agriculture are needed. Much publicity should be given to this program, as it aims to inform poultry owners how to increase the livability of chicks and pullets. Veterinarians should be in the front line when it comes to increasing the viability of chickens. They should have a good working knowledge of avian nutrition and its relation to high hatchability and high livability; the latter can also be enhanced through rigid testing of flocks in order to remove pullorum reactors. Sanitation must be preached; chicks in the brooder house can be prevented from becoming infected with coccidiosis and other diseases if the caretaker is properly instructed.

In those areas where fowl pox and laryngotracheitis are prevalent, poultry owners should be advised to vaccinate their chicks early, and told frequently not to let them become infected before they go into egg production.

During the past three or four years, refresher courses in poultry-disease control have been conducted in many of the principal poultry areas. These schools have made the practicing veterinarian more alert to the needs of the poultry industry. The veterinarian who has thus qualified himself can assure poultry owners that his recommendations are sound.

The same kind of a program for the swine industry can be carried out by giving sound advice on how to raise more and better pigs. We must grasp every opportunity to talk to groups of swine owners and give them dependable information on the nutrition of sows and

pigs. Most mixed feeds will be much lower in their protein, mineral, and vitamin content than formerly. Veterinarians should know when unthriftiness calls for corrective diets. Malnutrition and unthriftiness increase the susceptibility to infectious diseases.

Early vaccination of pigs should be encouraged where the serum-virus treatment is used so as to avoid some of the trouble met in the simultaneous treatment of older swine which have been exposed to other infections. The veterinarians in the states bordering on swine-erysipelas-affected areas should be alert for symptoms of the disease so that it will be promptly recognized if it does appear in uninfected areas. When hogs are high priced, there is increased traffic in them, so that this disease may be carried to states now free from that infection. Swine owners should be apprised of the danger of delaying vaccinating against cholera, because of the peril of secondary infections when older hogs are given virus.

In areas where equine encephalomyelitis endangers the horse population, farmers should be advised to vaccinate against this disease. It is now timely to point out the benefits of protective vaccination.

Where turkeys are raised in great numbers, veterinarians should help the raisers with their problems by advising against the use of methods and products of little or no merit.

#### THE PROBLEM OF MAINTAINING VETERINARY PERSONNEL AND SERVICES

So much effort has been made to increase food production that practitioners have had little time left for publicizing the veterinary profession. In the great livestock areas, they have been sorely pressed to provide the increased services demanded of them. In many areas, it has been necessary for veterinarians to take care of adjacent territory which has been depleted of practitioners. Also, there have been added demands for veterinary service because of the increased values of livestock.

If we publicize the wartime problem of maintaining needed veterinary service in some areas, it may react adversely. For example, advertisements 6 by 21 inches, and other smaller ones, have appeared from time to time in the *Rochester (Minn.) Post-Bulletin* which advertise complete lines of animal remedies available to stock owners directly from the manufacturer. This is not new as far as farm sales go but it is a challenge to the veterinary profession in that area of Minnesota, or in any other area, which has had its veterinary service partially depleted by the demands of the Army. It also shows the readiness of commercial interests to take advantage of the veterinary profession when its members are called to serve with our armed forces and so leave communities without ample veterinary service. Advertisements similar to

those cited have appeared in local papers from coast to coast. The reprehensible character of such advertisements and of the drug stores running them is shown by the fact that they advertise expert advice on animal diseases or state they have men trained to give advice on veterinary problems. When men inexperienced in diagnosis, pathology, bacteriology and other highly technical subjects attempt to prescribe for animal ailments, we fear for the future of the livestock industry.

In spite of such incidents, it appears that most livestock owners are now more aware of the value of veterinary services than ever before. Veterinarians are being employed to perform services which previously had been attempted by the owners or the "handy man." Now, as never before, it behooves every veterinarian to cultivate the proper relations with his clientele and the general public. When we fail to render the kind of service we have been trained to give, then we fail to promote better relations between the veterinary profession and the public.

We should put forth every effort to make agricultural leaders more aware of the importance of disease control and veterinary service. Farmers lose annually from 30 per cent to 40 per cent of the pig crop, about 20 per cent of the calf crop and 25 per cent to 35 per cent of the pullets that go into the laying house. Most of these losses are due to improper nutrition of breeding stock, to improper management, improper feeding, parasitisms and lack of disease control.

If the profession does not continue to fight against the perils of introducing dangerous animal diseases from other countries, some plague may thrust itself upon us, especially in these times of increased shipping contacts with foreign ports. We can not import meat, bone meal and other animal by-products from countries infected with foot-and-mouth disease if we hope to remain free from such diseases. There is a tendency to let down the bars during the threatened meat shortage and allow meat to be imported. Agricultural leaders must be made aware of the fact that the veterinary profession has no thought of financial gain in its fight against contagious diseases.

#### SOME POSTWAR PROBLEMS

In many large and prosperous agricultural areas, adjacent to huge governmental armament and defense projects, veterinary practice is now very active. Billions upon billions of dollars spent for war material are temporarily exhilarating and even intoxicating stimulants for all business and professional work. When the end comes for the great world conflagration that exists today, and the end will come some day, the repercussions that follow are certain to be greater and more far-reaching than any the

world has ever known. Uncle Sam is inevitably destined to bear a major portion of the load. Many of us forget that "Uncle Sam" means you and me and one hundred and thirty million others who are direct and indirect taxpayers.

In the future, much free service will "go by the board" when the bill for things that have gone up in smoke or to Davy Jones' Locker has to be paid. It behooves the best minds in the fields of animal husbandry and veterinary medicine to get together and re-establish the service on sound, self-supporting principles and a solid foundation. The practitioner is an important part of that foundation.

To quote from a recent issue of the AVMA JOURNAL:

"While there are today better methods of controlling epidemics than during great wars of the past, the hazards are much greater. According to opinions expressed in medical journals, there was never a time in all history when a watchful public health service was more needed than now. The coming blitzkrieg is apt to be disease."

With the objective of controlling such diseases as bovine tuberculosis, brucellosis and mastitis, swine erysipelas and swine influenza, equine encephalomyelitis, pullorum disease and many other diseases that have an important bearing on public health as well as agricultural economics, the general practitioner has an important rôle in the general scheme of public welfare.

Medical service for the average family, who are obliged to live on a restricted budget, and who do not have funds to retain the best medical service, but, who from the very nature of their position in life cannot bring themselves to the point of seeking and accepting charity, is a problem in the medical profession today. For this large group of people, a workable plan of health insurance may be a solution.

Perhaps we have a comparable situation among certain groups of farmers and animal owners who feel that adequate veterinary service is beyond their financial reach. An equitable plan for a system of animal health insurance which would provide adequate veterinary service might go a long way toward solving this problem. Philanthropists, industrialists and financial leaders, who have become engaged in some phase of agriculture or especially in the livestock field, frequently elect to have a service akin to animal health insurance; they do not need the free clinic, they do not need *free state medicine*.

The leaders in agriculture—those who sit around the council tables of large coöperatives, those who guide the destinies of large groups composed mostly of rural people (such as the Grange, the Dairymen's League, the Farm Bureau organizations, agricultural coöperatives and rural educational societies)—can not

usually be classed among the needy and among those who require free veterinary service. If they were in that class, they would not hold their positions in these large and influential coöperative groups. They are leaders because they are successful, and they are successful because they have shown business acumen and have acquired affluence and influence. Yet many of these leaders seem to favor free veterinary service at the expense of all the taxpayers and to the detriment of the veterinary practitioners who have been educated and trained for a specific purpose, namely, to safeguard the health of animals and indirectly to safeguard the health of the people. The breakdown of an efficient American veterinary practitioner's service will have far-reaching and unfavorable repercussions on the welfare of the livestock industry and the American farmer.

#### POSTWAR OPPORTUNITIES

When the time of the profession is not so completely taken up with emergency problems there will be other matters needing attention, such as health insurance, preventive medicine, pay-as-you-go veterinary service, more complete county, state and federal veterinary service and other things which will come out of this war.

Deficiencies in the nutrition of animals and poultry which are so closely allied with disease should be given attention. No greater service can be rendered the owners of livestock than that available from a well-trained veterinary profession. Sound advice from this source will be heeded more readily than that from purely commercial interests. We urge that members of the House of Representatives contact their respective state or provincial organizations and have them organize and promote disease prevention activities in their localities and take full advantage of educational publicity programs furnished by the parent organization. In many states, this publicity of disease prevention will pertain to the prevention of equine encephalomyelitis. In those states where there are large populations of sheep, publicity should be given to control of parasites, especially the proper use of phenothiazine suspension under veterinary supervision. In areas where turkeys are raised in commercial numbers, the veterinarians should advise and assist in the greater production of turkeys.

There is a disease prevention problem in every state in the Union and every province in Canada. Veterinarians who are public spirited will know how to organize such efforts and should not let other agencies gain the ascendancy in such work. Our profession must take the initiative as never before if we hope to lead in disease prevention.

In closing, we would like to urge that every veterinarian be ever cognizant of the fact that



our profession was created because there was a need for a specially trained personnel to study the causes of diseases of animals and discover means to control them. Regardless of the type of work in which we are engaged, we are an integral part of the livestock industry. Our economic and social welfare depends upon the success of the livestock industry and it in turn depends on our ability to control the diseases that may destroy it. Since most of our domestic animals, other than dogs and cats, are maintained on farms and are owned by farmers, a naturally close relationship exists between the farmer and veterinarian. We should bear this in mind and make every effort to keep this a cooperative relationship.

Disease prevention should be our theme during these times when every agency allied with agriculture is trying to produce more food for our armed forces and the civilian population which produces weapons for our fighting men. It is hoped that all veterinarians will give some of their time specifically to preaching the gospel of animal disease prevention and not leave it all to the other fellow or to the Association.

E. C. W. SCHUBEL, *Chairman*

CLIFTON D. LOWE                      CASSIUS WAY

CARL F. SCHLOTTHAUER      MARK WELSH

JOHN G. HARDENBERGH, *ex officio*

## Poultry Diseases

The program of the Poultry Disease Committee for 1942 was directed toward the reduction of mortality by improving disease control, breeding, feeding, and management. The program was favorably received by various agencies dealing with poultry throughout the United States. A communication from Australia requesting a copy of the program attests to its international bearing.

To get this program into action "The National Poultry Advisory Council was formed March 16-17, 1943, when leaders representing every phase of the poultry industry responded to an invitation, issued by Dr. J. R. Mohler, Chief of the Bureau of Animal Industry, U.S.D.A., Washington, D.C., to meet in Chicago for the purpose of evolving a program of improving poultry livability." The "poultry conservation for victory program" was planned and the services of Dr. Cliff D. Carpenter were secured to carry it out. The district committees are functioning in the coordination and dissemination of information relating to this program. (J.A.V.M.A. 102, (1943): 258-260).

Three bulletins have been compiled by the National Poultry Advisory Council and are now ready for distribution:

1) Chicken Brooding and Rearing Program. (J.A.V.M.A. 102, (1943): 459-461).

2) Laying House Program. (J.A.V.M.A. 103, (1943): 90-94).

3) Turkey Rearing Program. (J.A.V.M.A. 103, (1943): 15-17).

These publications are well organized and well illustrated. Every veterinarian should secure a supply and distribute them to clients. They can be obtained from Dr. Cliff D. Carpenter, 905 U.S. Customs House, Chicago, Ill.

In keeping with a previous recommendation of the Poultry Disease Committee, the National Poultry Improvement Plan has now reduced the tolerance of the pullorum tested class to 7 per cent. This will be reduced 1 per cent per year until a 5 per cent tolerance is reached in 1945.

This committee reiterates the recommendations of the 1942 AVMA poultry committee's report regarding student training in poultry pathology. More attention should be given to training veterinary students in the methods of breeding, feeding, management, and disease control of poultry. Veterinary college staffs should include specialists acquainted with the diseases of the various food producing animals. It is hopeful that the committee on education gives thought to a general overhauling of poultry pathology instruction.

A new book has appeared, *Diseases of Poultry* by H. E. Biester and Louis Devries, Iowa State College Press, Ames, Iowa, 1943, 1005 pages. Thirty-four men, well known for their knowledge of poultry problems, have contributed to this comprehensive volume.

## PERTINENT EVENTS OF THE YEAR

It is reported that an unusual percentage of poor quality chicks was hatched. This may have been the result of poor quality feed, use of inferior breeding stock in an endeavor to increase the number of chicks, shortage of labor or lack of experienced growers.

Although deficiency diseases in growing chickens were expected they have not been prevalent. However, veterinarians should be on the lookout for such diseases during the fall and winter, especially in the west plains section.

In the Middlewest, there has been an unusual amount of fowl pox. Veterinarians are urged to familiarize themselves with the condition and with the methods of vaccination. Likewise, veterinarians should be on the alert for laryngotracheitis and they should know where to secure a reliable vaccine if needed.

Infectious bronchitis continues to take a toll among baby chicks. Laying hens may also contract this disease with resultant loss in egg production but negligible mortality. Veterinarians should familiarize themselves with this virus disease.

From California come reports of avian pneumoencephalitis in turkeys as well as in chickens.

Pullet disease continues to take its toll of chickens on range and after housing in the fall. Veterinarians should distinguish this condition from avian pasteurellosis.

Ornithosis (psittacosis) virus has been isolated from chickens and pigeons in the United States. Likewise, neutralizing antibodies for this disease have been found in chickens and pigeons.

Families of chickens which were free of the avian leucosis complex up to 300 days of age have been raised at the U.S. Regional Poultry Research Laboratory, East Lansing, Mich. This development should expedite the program of research on this disease. The avian leucosis complex (lymphomatosis) seems to be on the increase in turkeys. Practitioners should keep this in mind when dealing with turkey flocks.

In addition to the avian *Salmonellas* already described, workers at the Kentucky station have added two more which were isolated from turkeys, *Salmonella maderia* and *Salmonella antherstiana*. Avian *Salmonella* types are mentioned in a bulletin entitled *Serological Identification of Salmonella Cultures* by P. R. Edwards and D. W. Bruner. Bul. 54, Ky. Agric. Exper. Sta., 1942.

After a lapse of ten years, fowl cholera and fowl typhoid have appeared in Kansas.

A new species of coccidia has been found in chickens of New York and has been identified as *Eimeria brunetti*.

Hexamita infection has been reported in turkeys in New Jersey and Kansas. Poultry pathologists and veterinarians should be on the watch for this infection. Turkey growers should be urged not to traffic in live turkeys, especially breeding stock, in order not to spread this and other infections.

*Leucocytozoon smithi* infection has been diagnosed in turkeys in Texas and California. This adds two more states to those already reporting it. The disease is probably more widespread than present findings indicate.

Swine erysipelas infection in turkeys was reported the first time this year in the state of Washington.

The California station reports the formation of soft shelled eggs following the administration of sulfanilamide to chickens and turkeys.

To assist practitioners in becoming acquainted with the more common poultry diseases, the following articles are suggested as an addition to state experiment station and extension bulletins. These articles were referred to in a presentation by Dr. C. A. Brandly before the post graduate conference of veterinarians at Michigan State College, January, 1943, and published in the Michigan S. C. Vet. 3, 1943: 100-101.

Erwin Jungherr: Diseases of Brooder Chicks. Bul. 202. Storrs Agr. Exper. Sta., 1935.

Hubert Bunyea: Use of the Rapid Whole-Blood Test for Pullorum Disease. Miscel. Pub. 349. U.S. Dept. of Agric., 1939.

H. Van Roekel: Questions and Answers Concerning Pullorum Disease. Bul. 284. Massachusetts Agric. Exper. Sta., 1932.

E. M. Dickinson: Coccidiosis Control in Chickens. Bul. 405. Oregon Agric. Exper. Sta., 1942.

C. A. Brandly, Robert Graham and R. H. Hurt: Respiratory Diseases of Poultry. Cir. 517. Univ. of Illinois, Extension Service in Agric. and Home Economics, 1941.

L. Van Es and J. Folney: Poultry Diseases and Parasites. Bul. 332. Nebraska Exper. Agric. Sta., 1939.

L. D. Bushnell and M. J. Twiehaus: Poultry Diseases, Their Prevention and Control. Bul. 284. Kansas Agric. Exper. Sta., 1939.

Check List of Virus Diseases of Birds. Poultry Disease Committee Rept., J. A.V.M.A. 95, (1939): 613-622.

Check List of Bacterial Diseases of Birds. Poultry Disease Committee Rept. J.A.V.M.A. 97, 1941.

Common Diseases and Parasites of Poultry. Part 7, U.S. Dept. of Agric. Yearbook, 1942: 931-1108.

Poultry Information—Please: A Symposium of Bacterial, Virus, Nutritional and Parasitic Diseases of Chickens and Turkeys. Proc. Forty-fourth Annual Meeting, United States Livestock San. Assoc. 1940, Chicago, Ill.

W. R. Hinshaw: Diseases of Turkeys. Bul. 613. California Agric. Exper. Sta., 1937.

#### RECOMMENDATIONS

1) It is urged that a paper or discussion on poultry or poultry diseases be on every veterinary program, whether local, state or national.

2) Every educator in the field of poultry should use the facilities of visual education in presenting poultry problems to students, veterinarians, and research workers.

3) Our veterinary colleges should adopt more uniform and extensive instruction in poultry pathology, management, and breeding.

4) The veterinarian should seek to acquaint himself with the problems of poultry husbandry in order to more adequately service that industry.

5) Extension schools for studying poultry diseases should be more widely available and more veterinarians should attend.

6) Research workers and veterinarians should be on the lookout for fowl plague and Newcastle disease.

7) There should be a poultry pathologist on the staff of the National Poultry Improvement Council.

8) Practitioners should be encouraged to contribute articles on poultry diseases to the JOURNAL.

FRANK THORP, JR., Chairman

F. R. BEAUDETTE  
J. W. LUMB

FRANK TUCKER  
T. M. DEVRIES

## Nutrition

The Committee on Nutrition has endeavored to keep in close touch with the feeding problems arising because of wartime shortages, and has attempted to keep the profession informed regarding the dangers to animal health which may result because of the lack of certain ingredients or the substitution of ingredients which may prove to be unsatisfactory.

The Committee also recognizes that the rapid advances which have been made in the field of nutrition during the past twenty-five years have made it impossible for the busy practitioner to keep fully informed regarding the new developments in this field. While the primary function of the veterinary practitioner is the diagnosis and treatment of disease, he must also be able to give recommendations for the prevention of disease. This phase of practice should include the ability to analyze the rations being fed in terms of the essential food elements, both organic and inorganic, which are supplied by the ration and an understanding of how these rations should be fed both in health and in disease.

The function of the Committee on Nutrition must be to make such information available to the profession. With this in mind, the first action taken by the Committee was to address all state veterinary associations urging them to include the subject of animal nutrition on the programs of their winter meetings. The response to this letter was most gratifying.

Recognizing the need of keeping the profession informed regarding wartime feeding problems, the Committee suggested to the Board of Governors that a nutrition section be added to the JOURNAL. This new section was created and the Committee was given full responsibility for the material going into it.

The Committee has made a thorough study of one feeding problem arising because of the wartime shortage of phosphorus supplements which are safe for animal feeding. Recognizing that uninformed mixers of mineral supplements, and of feeds to which supplements are added, might use fluorine-bearing rock phosphate, steps were taken to warn not only the profession, but livestock men of this danger. This program included an article in the nutrition section of the JOURNAL and a release through the AVMA publicity counsel calling attention to this danger.

The following program of work for 1943-44 is presented for the consideration of the House of Representatives:

### I. COÖPERATION WITH STATE AND LOCAL VETERINARY ASSOCIATIONS

To suggest to each state and local veterinary association the appointment of a committee on nutrition which will coöperate with this Com-

mittee in carrying on the nutrition program. The chairman of the Committee on Nutrition of the AVMA is to be informed of the appointment of such committees and be supplied with the names and addresses of the chairmen.

By coöperating with such committees the following program should be instituted:

- 1) To encourage the various state and local veterinary associations to arrange for nutrition papers on their programs.

- 2) To encourage the development of a coöperative spirit between the extension forces that have to do with recommendations for animal feeding and the veterinary profession to the end that those of the profession who are interested would be placed on a mailing list to receive information on nutrition, such as bulletins, circulars and circular letters which are prepared for distribution to livestock men, also notices of meetings where nutrition subjects are presented.

- 3) To keep the Committee on Nutrition informed regarding nutritional problems which come to the attention of the state committees.

### II. THE USE OF THE NUTRITION SECTION IN THE JOURNAL

- 1) To give consideration to the publication in the Nutrition Section of the JOURNAL of a series of articles which will cover in an orderly manner the fundamental knowledge of animal nutrition and the relationship between nutrition and animal disease. Such a series of articles should be prepared by men who are leaders in the field of animal nutrition and be published in such a way that the material can later be assembled in book form and made available at cost. It is recognized that this may be impossible at present but the Committee feels that plans should be made to present this material whenever it is possible to get it prepared.

- 2) To prepare and present in the section on nutrition, abstracts of nutrition papers which present material of interest to the veterinary practitioners.

- 3) To prepare monthly for the duration of the war, a statement covering nutrition news which is of current interest. These articles should keep the reader informed regarding necessary changes in feed ingredients which may influence the health of animals.

### III. To keep the field of animal nutrition and its relation to animal diseases under close scrutiny for the purpose of calling attention to problems which are vital to the health of farm livestock and which deserve the attention of qualified research workers in the field of animal nutrition.

s/H. J. METZGER, *Chairman*

CLIFF D. CARPENTER  
GEORGE H. HART

M. L. MORRIS  
HUBERT SCHMIDT



## Special Committees

### History

The purpose of this committee is no where set down in the records of the Association, but, it is to be remembered that it is not intended it should concern itself in writing a history of the veterinary profession, nor even of the Association. In the last few years, the work has been:

1) Filing historical information in the AVMA office for future use.

2) Making the JOURNAL a chronological history of passing events—technical and professional. Regarding the first, about 500 typewritten pages (multigraphs) have been filed in booklet form. The last one is a complete survey of municipal meat inspection in American cities. B. W. Bierer did all this work at his personal expense as no money was appropriated for the Committee in recent years. J. P. Foster of Minneapolis spent much time and money through many years gathering information on veterinary schools and students which he now regards as his personal property because he got no help nor thanks from the Association for his tremendous efforts. Whether we shall ever be able to get all of this valuable data into our files is problematic.

In recent years, the editor of the JOURNAL has endeavored to make it a monthly addition to American veterinary history where it will always be available, and has recommended that this committee devote some time toward filing biographies. Detailed biographies of deceased and living members are being published, and a strong effort is being made to complete the collection of pictures of past presidents for the central office.

A suggestion that is worthy of serious consideration has been made, namely, the gathering up of the history of the State Live Stock Sanitary Services in respect to the time and the purpose of their founding, and the names and work of the veterinarians who have administered them; that is, the state veterinarians. Were an appropriation turned over to the Committee and some member of the same was charged with the task, the result would be extremely valuable.

At the present time, American veterinarians are not history-minded enough for a veterinary history in book form, but, it is hoped that the future will develop a desire for complete historical data. It is, therefore, the duty of the Association to put history on file for future use.

We also sincerely hope and trust that, after this global war is over, a complete record of the splendid services of our veterinarians in the armed forces of our country will be recorded as a tribute to them, and a lasting

example to our posterity of patriotic duty well done.

We recommend that the work of this committee be continued.

s/R. S. MCKELLAR, *Chairman*

C. E. COTTON

D. H. UDALL

L. J. ALLEN

J. L. TYLER

M. R. BLACKSTOCK

L. A. MERRILLAT

### Rabies

Recommendations of the Special Committee on Rabies of this Association for 1941 were approved to coordinate the activities of the Rabies Committee of this organization with those of a number of other organizations through representation on a committee which has come to be known as the National Committee on Rabies. The function of the National Committee on Rabies is to consider ways and means of controlling rabies on a national basis. This committee held two meetings in New York City, one on Apr. 16, 1941, and the other on Apr. 24, 1942. At these meetings, the various aspects of the problem were discussed, but no action was taken nor recommendations made, pending further meetings of the Committee. Since no additional meetings of the National Rabies Committee have taken place during the year, your Committee has no recommendations to make at this time, except that the Special Committee on Rabies be continued, that cooperation with the National Rabies Committee be continued, and that representatives of this committee be authorized to meet with the National Rabies Committee on call.

s/H. W. SCHOENING, *Chairman*

J. H. GILLMAN

W. A. HAGAN

J. V. LACROIX

H. J. SHORE

J. A. WINKLER

C. P. ZEPP

### Nomenclature of Diseases and Vital Statistics

The Committee regrets to report that no progress has been made during the year on Nomenclature and Vital Statistics. The members, because of the distances involved and the difficulty in travel, did not deem it feasible to call a meeting of the whole Committee.

Your chairman assumes the responsibility for not having pursued the problem more vigorously, but the pressure of other work was just too time-consuming.

It is the opinion of the chairman, which is sustained by at least one member of the Com-

mittee, that the activities of this committee be held in abeyance for the duration of the war.

s/E. W. SMILLIE, *Chairman*

F. R. BEAUDETTE	H. C. H. KERKAMP
M. A. EMMERSON	D. A. SANDERS
W. H. FELDMAN	H. W. SCHOENING
G. H. HART	BENJ. SCHWARTZ

E. A. WATSON

## Parasitology

The Committee on Parasitology has, in previous reports, emphasized the desirability of a comprehensive survey of parasitic diseases of domesticated animals of the United States and of a check-list of parasites found in this country. Since the last meeting of the Association, the Bureau of Animal Industry of the United States Department of Agriculture has published, in the 1942 Yearbook of Agriculture, articles which give accurate and up-to-date information concerning the most serious of the parasitic diseases, but a more complete publication is very much needed.

The Committee strongly believes that the members of our profession are not as well informed concerning parasites and parasitic diseases as they should be. This condition is largely due to lack of sufficient instruction in the field of parasitology and the remedy for it lies in increasing the amount of time which students devote to the study of this science. With this in mind, the Committee has written the deans of the veterinary colleges of the country as per attached copy. (See exhibits A and B.)

The committee recommends as follows:

- 1) That the Bureau of Animal Industry of the United States Department of Agriculture be requested to publish either a bulletin or a series of bulletins containing the following information: (1) check-list of parasites of domestic animals occurring in the United States indicating states in which each occurs, (2) indications by states as to which parasites are most prevalent and which are most serious, (3) species of animals which act as hosts, (4) locations of parasites in hosts, (5) intermediate hosts, if any, (6) keys for identification, and (7) descriptions.
- 2) That the deans of the veterinary colleges of the United States and Canada, which are requiring less than twelve credits in the field of parasitology, be requested to increase their requirements to the minimum recommended by the Committee to each of these deans under date of Apr. 30, 1943.

- 3) That this committee be continued.

s/B. T. SIMMS, *Chairman*

D. W. BAKER	G. A. ROSE
G. DIKMANS	J. N. SHAW
R. E. REBRASSIER	H. L. VAN VOLKENBERG

## EXHIBIT A

AMERICAN VETERINARY MEDICAL ASSOCIATION

Special Committee on Parasitology  
Auburn, Alabama  
April 30, 1943

My dear Dean:

As you remember, the Special Committee on Parasitology of the American Veterinary Medical Association, realizing that many committee reports are read, approved, filed, and forgotten, asked the Conference of Deans for permission to file a part of our report with their curricular committee. Since there is no such committee, it was suggested that we send our material directly to each dean.

Enclosed is a statement and recommendations (Exhibit B). You realize, of course, that these recommendations have not been approved by the Association, but since they are to be presented at the next annual meeting we feel that you should have an opportunity to see them. We know that you will receive these in the same spirit in which they are sent. We are just as eager as you are to see the graduates of your institution well trained in the entire field of veterinary medicine.

Since, according to the information we have available, you are requiring only .. credits in parasitology, we feel that your curriculum will be stronger and better balanced if you can increase the amount of parasitology required. We realize that many administrative problems are involved in curricular changes but we hope it will be possible for you to solve such problems and strengthen your parasitology requirements.

It seems only fair to those members of our committee who are teaching to state that the recommendations concerning increasing and strengthening the requirements in parasitology did not originate with any of them.

With kindest personal regards, I am

Very sincerely yours,

B. T. SIMMS, *Chairman*

*Special Committee on Parasitology*

## EXHIBIT B

STATEMENT AND RECOMMENDATIONS  
SPECIAL COMMITTEE ON PARASITOLOGY, AVMA  
Apr. 30, 1943

It is a well-established fact that parasites and parasitic diseases are serious handicaps to the livestock industry of North America. No one can state the exact relative importance of parasitic diseases and diseases caused by bac-

teria and viruses. But in this connection it may be of interest to note that in the 1942 Yearbook of the United States Department of Agriculture, entitled *Keeping Livestock Healthy*, approximately 25 per cent more space is devoted to parasitic diseases than to infectious diseases.

This committee believes there is evidence on every hand to prove that the veterinarians of North America are lacking in sufficient training in the field of parasitology. It is usual to have practicing veterinarians, seeking help in handling parasite problems, explain that their knowledge in this field is very incomplete. During the last 20 years, the chairman of this committee has had the privilege of working with a goodly number of young veterinarians who had just graduated. Without exception and regardless of the colleges in which these men were trained, they have said they did not feel competent to work in the field of parasitology. Most of them had considerable confidence in their ability in bacteriological work.

An examination of the list of projects being studied at our state agricultural experiment stations reveals that there are few veterinary departments which are studying parasitic problems. Inquiry usually brings the reply that there isn't a parasitologist on the veterinary staff. Apparently for this reason, there are several stations at which work on problems in animal parasites is assigned to other departments than veterinary medicine.

Further significant evidence of insufficient knowledge concerning parasitic diseases is seen in the usual diagnosis of "parasites" or "parasitism" made so frequently by members of our profession. The veterinarian who makes such a diagnosis would laugh at the diagnosis of blackleg, tuberculosis, pullorum disease, brucellosis, or swine erysipelas as "a bacterial infection."

This committee is of the opinion that the only way to correct this lack of information is by increasing the amount of parasitology taught in the veterinary colleges. In this connection, attention is called to a comparison of the two sciences, bacteriology and parasitology. To the veterinarian, bacteria are of interest mainly because of their ability to produce disease. The same is true of the different phyla or invertebrates which include the parasitic genera and species. It is logical to expect, then, that the curriculum of a veterinary college will approach the subjects of bacteriology and parasitology in the same manner, giving each somewhat similar emphasis. An examination of the catalogs of the different veterinary colleges reveals that most of the institutions have well-equipped departments of bacteriology with well-trained staffs of sufficient size to handle satisfactorily the courses offered. From 20 to 25 credits\* are usually required in the study of bacteria and the diseases they produce.

These include about 10 credits in general and pathogenic bacteriology, about 5 in immunity and serum therapy, and from 5 to 10 in infectious diseases. But this is not all. In the histopathology course, classes study sections of tissue from animals affected with many bacterial diseases such as tuberculosis, anthrax, mastitis, and swine erysipelas. And in clinical pathology, they culture material from animals suspected of having infectious diseases and identify the organisms which are found.

The same catalogs present a far different picture of parasitology. In most institutions, this science is assigned to some other department, such as pathology, and the staff in parasitology consists of only a single staff member. All too frequently, this teacher has other duties in addition to handling all the courses in parasitology. The brief catalog descriptions indicate that both equipment and quarters for teaching parasitology compare unfavorably with these items for bacteriology. Only 2 of the 11 North American institutions, whose catalogs have been examined, require more than 8 credits in the study of parasites and parasitic disease. We have yet to find an instructor in histopathology who is having his classes study slides which show the pathology of parasitic diseases, in spite of the fact that a liver with immature flukes burrowing through it or a sheep's intestine with *Chabertia ovina* attached present interesting and instructive pictures. In clinical pathology classes, it is too often true that parasites found on autopsy are not identified as carefully as are bacteria found in cultures from such autopsies. In the clinics, it is quite unusual for students to be required to identify ova found in feces by hatching them and examining the larvae, a technique which is comparable to identifying bacteria by culturing and staining them.

Satisfactory instruction in parasitology should include enough training in morphology and taxonomy to enable students to use keys and identify most of the parasites at least to the genus, sufficient work with life histories to give the class a sound understanding of the developmental phases of the principal groups of parasites, thorough training in the methods of diagnosing parasitic diseases, and sufficient experience in autopsies to acquaint students with the location of parasites and the lesions caused by them. A minimum of 12 to 15 credits will be required for such courses. These courses should be followed by enough clinical studies of parasitized animals to familiarize students with symptoms, treatment, and results of treatment of parasitism. It seems that this can best be accomplished by having a parasitologist on the clinical staff.

The Committee believes that the quality of

\*Based on 15-18 credits as a full quarter's work, each quarter approximately 3 mo. long.



the courses in parasitology taught at the different veterinary colleges is, in general, good. In many instances, though, the teachers have to cover so much subject matter in the limited time allotted that it is impossible to give much more than a survey course. Members of the Committee have heard some of the courses criticised because the teachers do not use enough live material. It takes much time and energy for an instructor to have available for his classes stomach worm larvae encysted on grass or flukes actually emerging from snails. But it is through the study of such material that students actually learn.

REQUIREMENTS IN PARASITOLOGY AT THE ACCREDITED VETERINARY COLLEGES OF THE UNITED STATES AND CANADA WITH SOURCES OF INFORMATION

<i>Institution</i>	<i>Credits in Parasitology Required*</i>	<i>Source of Information</i>
Alabama	5	Catalog 1941-42, with Announcements for 1942-43
Colorado	8	Catalog for 1942-43
Iowa	5	Announcement 1942-43, Division of Veterinary Medicine
Kansas	8	Catalog 1941-42, with Announcements for 1942-43
Michigan	8	Catalog March, 1942, with Announcements for 1942-43
Cornell	8 approximately	Announcement for 1940-41
Ohio	12 plus work in clinic	Ohio State University Bulletin December, 1941
Ontario	8 approximately	Calendar for 1941-42 Session
Pennsylvania	8	(Misplaced)
Texas	12	Bulletin of Information 1942-43 Session
Washington	5	College Bulletin 1940
Montreal	No information available	

\*Credits on the quarter system. In evaluating credits in those institutions which offer two semesters instead of three quarters per year, the semester credits required were multiplied by 1.5.

The Committee wishes to make the following recommendations:

- 1) That serious consideration be given to the establishment of a separate department of parasitology. If this is not feasible, that the man in charge of work in this science be given full professorial rank so that he may have both the responsibilities and the authority which accompany this rank.
- 2) That the required courses in parasitology include a minimum of from 12 to 15 credits in addition to the clinical work in this science.
- 3) That at least one member of the clinical staff be a parasitologist and that he be held responsible for diagnosis and treatment of parasitic diseases.
- 4) That teachers of parasitology be encouraged to use living material in their instructional work and that they be allowed sufficient time and help to collect and prepare this material for class use.

## Food Hygiene

The Special Committee on Food Hygiene has utilized the limited time at its disposal in the consideration of certain problems and in plans for their solution. As a result, we offer the following as suggestions to our successors on the Special Committee and recommend to the Association:

1) That specific animal-disease problems, such as the control of trichinosis, are too sweeping to be handled effectively by a special committee such as ours. It is suggested that problems incident to the control of trichinosis be assigned to some standing committee. However, it is believed that the Special Committee on Food Hygiene can provide helpful assistance by furnishing information to the Association and, through it, to state, county, city, and other public health officials, on the latest procedures for the protection of consumers of pork.

2) That the Association, through its Committee on Legislation or through other proper channels, press for a national system of poultry inspection patterned after the federal meat inspection system.

S/W. C. HERBOLD, *Chairman*

A. G. BOYD                      O. H. DIXON  
L. G. CLOUD                    D. C. GILLIS

G. R. SPENCER

## Brucellosis

Progress in the control and eradication of brucellosis in cattle has not been as great during the year immediately past as in previous years. This is a result of several factors, including the lack of sufficient available veterinarians due to wartime conditions. The number of cattle tested has decreased from an average of 575,000 per month last year to approximately 425,000 per month during the year which began July 1, 1942. This report is being compiled as of Apr. 1, 1943. Thus, the number of cattle tested under the federal-state co-operative program is only about 72 per cent of the number under test last year. Approximately 50 per cent of tests conducted this year are in sections of the country where the area plan of control is used. There are 582 counties in 24 states that are classified as "modified Bang's disease-free areas." This is an increase of 46 counties during the year. About 140 additional counties are operating under the area plan. Thus, the farmers in 708 (23%) of the 3,071 counties in the United States have chosen the area plan for the control of brucellosis in cattle. Funds for state indemnity in eradication work are available in all states except California, Colorado, Indiana, Massachusetts, Nevada, Oklahoma, and Texas.

### CALFHOOD VACCINATION

There has been considerable increase in the number of calves vaccinated during recent months. From Jan. 1, 1941, through June 30, 1942, approximately 147,000 calves were vaccinated under official supervision. Thus, during that eighteen-month period, approximately 8,000 calves per month were vaccinated under official supervision. This number has increased to approximately 20,000 per month at this time, or an increase of 250 per cent.

A recent release from the United States Bureau of Animal Industry shows that, in some herds employing calfhood vaccination, non-vaccinated, positive-reacting, mature cattle are retained, instead of eliminated by slaughter. This practice seems to have an advantage in some infected herds, particularly during wartime. The figures show that of a total of 13,832 positive, mature cattle, disclosed by official tests during the month of February, 1943, 11,704 (84%) were slaughtered, while 2,128 (16%) were retained for further production purposes. This may be taken as a trend in methods of Bang's disease control. In fact, some control officials have come to the conclusion that best results from calfhood vaccination are obtained in herds where naturally infected, nonvaccinated, positive-reacting, mature cattle are maintained in contact with the vaccinated calves. This conclusion has not been confirmed by controlled experiments, but is based on

opinions derived from field experience in certain states.

Calfhood vaccination has been made a part of the official plan for the control of brucellosis in cattle in 40 states and Puerto Rico.

### VACCINATION OF MATURE CATTLE

In some states, vaccination of mature cattle with strain 19 vaccine is being employed in certain types of infected herds under official supervision. Also, many veterinarians and laymen are using the vaccine in mature cattle in infected and noninfected herds not under official supervision. Such practice seems widespread and popular in some quarters, but is contrary to the control procedures currently recommended by this Association, the United States Live Stock Sanitary Association and the Bureau of Animal Industry, United States Department of Agriculture. Attention is directed to the fact that sufficient data from controlled experiments are not available at this time to establish the merits and safety of such use of strain 19 vaccine in mature cattle.

It is urged that the use of living vaccines be kept under close supervision in order that best results may be obtained, including as much protection as possible to the public against *Brucella* infections. It is the conviction of the Committee that restriction of the use of such vaccines under official supervision and in an appropriate manner is essential if the ultimate, desirable objective of eradication of bovine brucellosis is to be attained. Groups interested in the welfare of agriculture and the public health are urged to sponsor appropriate state and federal legislation designed to attain this objective.

The official methods and procedures currently in use for the control of bovine brucellosis in different states vary or diverge extremely. Therefore, it does not seem feasible for the Committee to attempt to outline procedures in detail for the guidance of either official or private veterinarians because such procedures cannot be applied uniformly.

The Committee recommends the following broad principles for use during the period of the war:

- 1) That control and eradication efforts based on the agglutination blood test be continued, with emphasis on the elimination of unprofitable, reacting animals. During the present emergency, the judicious retention of reacting animals may be advisable in certain infected herds, provided that they are high producers or represent valuable blood lines, and further provided that the retention of such reacting animals does not jeopardize the total productive capacity of such herds by infecting clean cattle.

- 2) That more emphasis be placed on appro-

appropriate herd management and sanitation practices which have repeatedly demonstrated their value for increasing production efficiency in infected herds by decreasing the spread of the disease within the herds.

3) That the area plan of control be continued and expanded to areas where it is feasible.

4) That we approve and encourage calfhood vaccination under proper supervision as recommended as an aid to control efforts, and discourage its use as a substitute for good herd management and proper sanitary practices. The ultimate objective in all cases should be a clean, noninfected herd in which the mature animals are negative to the agglutination blood test for brucellosis.

#### BRUCELLOSIS IN SWINE

Knowledge of *Brucella* infections in swine from controlled experiments and from experience with natural outbreaks of the disease is inadequate. No definite control procedures that are known to be satisfactory are available. Researches are in progress concerning this disease in swine. However, until more accurate information is available, the following suggestions have been submitted to swine breeders by veterinarians of the Animal Disease Station of the United States Department of Agriculture:

1) Frequent blood testing of all animals, with prompt removal or strict isolation in all cases where the slightest evidence of reaction is detected.

2) Segregation of sows which have aborted or given birth to dead pigs, even though they fail to react to the blood test.

3) Careful examination of all boars, not only from the standpoint of blood testing, but also for any indication of testicular deformity. Any suspicion of infection in either case should justify prompt removal of the animal in question.

4) Removal of pigs at weaning time to clean premises, keeping them isolated from adult animals.

5) Intensified application of adequate cleaning and disinfection procedures.

6) The exercise of extreme care in securing clean replacement animals when it becomes necessary to purchase from outside sources.

It seems obvious that there has been an appreciable decrease in the amount of research being conducted in this country with *Brucella* infections of cattle. No doubt some of this decrease has resulted from wartime conditions. This is regrettable. However, much of the decrease seems to be associated with a growing tendency on the part of many veterinarians and cattle owner to consider the problem of *Brucella* infections as satisfactorily solved by the use of strain 19 vaccine. The Committee considers it timely to warn against the ten-

dency toward this conclusion and recommends that further research is needed on all phases of this important disease of animals and man.

s/C. R. DONHAM, *Chairman*

A. S. BARNES	I. S. McADORY
H. S. CAMERON	I. R. VAIL
R. A. HENDERSHOTT	W. WISNICKY

## The Interstate Shipment of Livestock by Truck

The report of your committee on Interstate Movement of Livestock by Truck at the annual meeting held in 1941 at Indianapolis contained a very definite statement of objectives to be attained in order to bring about desired reforms. They were as follows:

*First*, a recommendation that persons, firms, or corporations engaged in interstate shipment of livestock by truck should be licensed by some federal agency.

*Second*, they should be required to comply with the same provisions relative to unloading for rest, feed, and water that now apply to other transportation companies.

*Third*, that such truck shipments should be required to be accompanied by a bill-of-lading to definitely establish origin, destination, and ownership of such animals.

*Fourth*, that all truck shipments of livestock be accompanied by health certificates showing compliance with the regulations of the federal government and those of the state of destination.

It seems to us that these points are self-evident and our committee has concerned itself with making an effort to have these recommendations effected by some sort of action by the proper agencies.

We have felt the first action to be taken should provide for a waybill which each trucker should have in his possession at all times accompanying a load of animals. This phase of the subject was presented to the National Assembly of Chief Livestock Sanitary Officials, and as a result of the deliberations, the United States Livestock Sanitary Associations adopted the following resolution at the meeting in December, 1942, in Chicago:

WHEREAS: On account of the extreme necessity of protecting our food animals from becoming infected with contagious and infectious disease which is transmitted from one state to another through the media of feeder, dairy, and breeding stock being transported from one state to another state;

Attention of the Office of Defense Transportation is hereby called to the fact that the absence of uniform waybills and livestock contracts in the major portion of our



truck shipments of livestock prevents sanitary officials and other qualified peace officers from being able to verify the origin and destination of livestock shipments that may pass through or be delivered in areas under their jurisdiction.

**THEREFORE, BE IT RESOLVED:** By the United States Livestock Sanitary Association, that the Office of Defense Transportation be urged to establish some form of uniform waybill or livestock contract in truck shipment of livestock by common, contract, and private carrier, so that state and federal officials will have some method of policing the sanitary laws that are in force.

Copies of this resolution, together with a supporting letter, were sent to Joseph B. Eastman, director of Defense Transportation, Washington, D. C.; A. F. Cleveland, vice-president, Association of American Railroads, Washington, D. C., and George W. Gillie, Congressman from Indiana. Other members of the Association got in touch with leaders of various livestock associations presenting copies of this resolution and urging support of this proposal.

It seemed to many of us that the time was opportune for this movement as being in line with meat rationing, meat quotas, conservation of trucks, mileage, and tires, as well as the fact that the public is livestock conscious and unusually aware of the importance of maintaining a high level of animal health.

From the humane standpoint, it seems evident that if it is necessary to exercise supervision of livestock shipments by rail covering unloading for feed, rest, and water, as provided in the 28 hour law, then such procedure should be extended to truck shipments. Certainly it is as cruel to deprive animals of feed, rest, and water, when loaded on a truck as when loaded on a railroad car. Also, it is just as important that animals transported by truck arrive in good condition as those by rail.

We learned on very short notice that a meeting on the subject of the extension of the 28-36 hour law to truck shipments was called for March 24, 1943, in New York City. Your committee did not learn of this meeting in time to have a member present, consequently the following telegram was addressed to Sidney Coleman, president of the American Humane Association, in whose office the hearing was scheduled to be held:

Regulatory officials realize need of waybill and records covering truck shipment of livestock, necessary so as to check on health status of transported animals, establish origin, destination, time enroute, etc. Some such action is needed to enforce health regulations of various states, also from humane standpoint. Many abuses

exist under present method of handling livestock by truck.

s/ Frank L. Carr, *Chairman*,  
Committee on Interstate Shipment of  
Livestock by Truck of American Veteri-  
nary Medical Association.

The conference was held as scheduled and was attended by representatives of the United States Livestock Sanitary Association, National Livestock Loss Prevention Board, American Veterinary Medical Association, and representatives of the many groups comprising the American Humane Association.

The subject of discussion was the truck movement of livestock and the desirability of the provisions of the 28-36 hour law being extended to include the movement of livestock by truck. It was the consensus of opinion of those present that the federal 28-36 hour law should be amended to include trucks. It was decided that a copy of the proceedings of the meeting be sent to the various interested groups and that comments and criticisms be invited; this to be followed by a later conference.

On May 21, 1943, a second conference was held at the Palmer House, Chicago, Ill., and this meeting was attended by representatives from all of the above-mentioned groups. It was agreed that an organized effort be made to obtain an amendment to the present federal 28-36 hour law to provide for the extension of its provisions to truck movement of livestock.

As a result of the deliberations, an amendment to the present law was drafted and it was directed that a letter including a copy of this amendment be sent to the members of both houses of Congress. The following is a copy of the proposed amendment.

#### UNITED STATES STATUTE

(Act of June 29, 1906, Chap. 3594.  
34 Stat. L. 607)

1) TRANSPORTATION OF ANIMALS—  
TIME LIMIT FOR CONTINUOUS CONFINEMENT ON CARS, *MOTOR VEHICLES* AND *VESSELS*—EXTENSION OF TIME BY WRITTEN REQUEST—TIME OF LOADING AND UNLOADING NOT INCLUDED—SHEEP—That no railroads, express company, car company, common carrier other than by water, or the receiver, trustee, or lessee of any of them, whose road forms any part of a line of road over which cattle, sheep, swine or other animals shall be conveyed from one State or Territory or the District of Columbia, into or through another State or Territory or the District of Columbia, or the owners or masters of steam, sailing, or other vessels carrying or transporting cattle, sheep, swine, or other animals from one State or Territory or the District of Columbia into or through another State or Territory or the District of Columbia, shall

confine the same in cars, boats or vessels of any description for a period longer than twenty-eight consecutive hours without unloading the same in a humane manner, into properly equipped pens for rest, water, and feeding, for a period of at least five consecutive hours, unless prevented by storm or other accidental or unavoidable causes which cannot be anticipated or avoided by the exercise of due diligence and foresight PROVIDED, That upon the written request of the owner or person in custody of that particular shipment, which written request *sufficient to identify the live-stock shipment* shall be separate and apart from any printed bill of lading or other railroad or other transportation record form the time of confinement may be extended to thirty-six hours. In estimating such confinement, the time consumed in loading and unloading shall not be considered, but the time during which the animals have been confined without such rest or food or water on connecting roads shall be included, it being the intent of this Act to prohibit their continuous confinement beyond the period of twenty-eight hours, except upon the contingencies hereinbefore stated, PROVIDED, That it shall not be required that sheep be unloaded in the night-time, but where the time expires in the night-time in case of sheep the same may continue in transit to a suitable place for unloading subject to the aforesaid limitations of thirty-six hours. *The foregoing provisions shall apply equally to any owner or operator of any motor propelled land vehicle or other vehicles attached thereto.*

(Italicized material new; boxed material to be omitted.)

s/ F. L. CARR, *Chairman*

C. C. FRANKS      H. C. GIVENS  
RUDOLPH SNYDER

in the United States. Reports indicate that these questionnaires were filled out and returned almost 100 per cent. A memorandum 1420, Local Board Release No. 89, dated Apr. 28, 1942, was sent to all state directors of Selective Service in reference to occupational deferment of veterinarians and listing the state committees. (See June, 1942, JOURNAL, p. 525.)

While the duties of the Committee have been largely taken over by other agencies, I recommend that the Committee be continued for the duration in order that they may handle matters that cannot be taken care of by other agencies and to assist other agencies with problems that may arise. As chairman of this committee and chairman of the Veterinary Preparedness Committee of North Carolina, I wish to take this opportunity to express my appreciation for the assistance and splendid coöperation which we have received from Lieutenant Colonel Sam F. Seeley, former executive officer of the Procurement and Assignment Service and his successor, Dr. M. E. Lapham. It has been a pleasure to work with these men.

s/WM. MOORE, *Chairman*

## Diseases of Dairy Cattle

The work of the Committee has consisted in the preparation of a special article which was published in the Journal of the American Veterinary Medical Association (June, 1943, vol. CII, pp. 437-448), where the members may read it.

This paper will constitute the only report that this committee desires to make.

s/M. G. FINCHER, *Chairman*

F. W. MILLER      R. N. SHAW  
C. E. PALMER      P. C. UNDERWOOD  
C. H. SEAGRAVES      F. E. WALSH

## Veterinary Medicine and the War

I wish to report that no matters have been referred to the Committee during the year and, therefore, no meetings of the Committee have been held. The work of the Committee has been largely taken over by the Procurement and Assignment Service for Physicians, Dentists and Veterinarians, Office of Defence, Health, and Welfare Service. (See JOURNAL, March, 1942, and other issues during the past year for a full discussion of the Procurement and Assignment Service.) Veterinary Preparedness Committees have been selected for each state and the District of Columbia and all matters pertaining to veterinarians for the military and civilian service are now handled by these committees in coöperation with other agencies. On Apr. 15, 1942, a questionnaire and enrollment form was sent to every veterinarian

## Diseases of Swine

The major activity of the Committee was the preparation of a special article under the title, "Recommendations on Swine Disease Control to Meet Wartime Needs," which was published in the March 1943 issue of the Journal of the American Veterinary Medical Association.

The reception accorded this special article by the general public was most gratifying. It was the subject of comment on one "March of Time" radio program and it was liberally abstracted in the section on Medicine, in one issue of *Time Magazine*. Abstracts also appeared in a number of newspapers throughout the Middle-west.

T. W. MUNCE, *Chairman*

L. P. DOYLE      J. S. KOEN  
E. V. HOVER      T. L. STEENBERSON

## Diseases of Sheep

The principal activity of the Committee has been the preparation of a special article titled, "Recommendations on the Control of Diseases of Sheep," which was published in the August, 1943, issue of the JOURNAL of the American Veterinary Medical Association, pp. 75-79.

This paper constitutes the only report to be rendered by this committee.

s/F. E. HULL, *Chairman*

L. D. FREDERICK

I. E. NEWSOM

HADELIGH MARSH

L. R. VAWTER

## Diseases of Horses

It is the opinion of the Committee that a report of this kind should not present all the phases of equine diseases but confine its content to discussion of the following:

- 1) The incidence of the more important infectious diseases affecting horses during the past few years,
- 2) The progress of control or eradication programs,
- 3) The newer knowledge of prevention or treatment of equine diseases,
- 4) Recent research in the field of equine diseases and,
- 5) Such recommendations as the Committee feels are indicated.

On this basis, we wish to submit the following report.

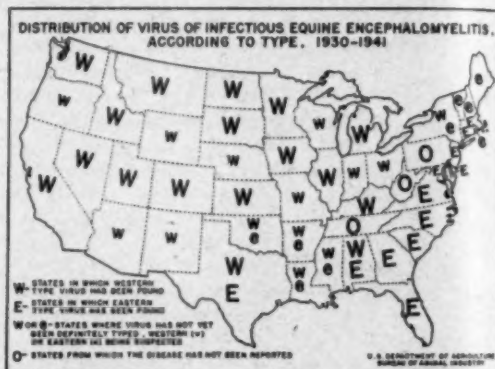
## EQUINE ENCEPHALOMYELITIS

There is little doubt that at present the most important disease of horses is equine encephalomyelitis. While this disease probably has been present in this country for several decades, it was not recognized as a specific disease until the discovery of a filtrable virus as its specific cause in 1930. Since that time, two separate and distinct types of the virus have been demonstrated with individual immunological properties. They are designated as western and eastern types and, as the names indicate and according to present knowledge, the eastern type is found in a few of the southeastern states and those bordering the Atlantic coast, while the western type is found in the central and western areas of the United States. The map, published in the 1941 report of the federal Bureau of Animal Industry, shows only three states, Pennsylvania, West Virginia, and Tennessee, from which the disease has not been reported. Two states, Alabama and Texas, show the presence of both the eastern and western types of virus. Recently, Michigan has been added to the list having both types. There is a definite possibility that there may be many other states in

which both types of virus exist. It will be observed also from the map that there are several states in which the exact type of the disease has not been determined. This emphasizes the importance of more laboratory examinations of suspected cases of encephalomyelitis to establish definitely the distribution of the two types of the virus in order that proper prophylactic measures may be carried out.

In 1941, Cox, Philip, and Kilpatrick of the Rocky Mountain Laboratory of the National Institute of Health definitely established that the virus of so-called St. Louis encephalitis of human beings, when artificially inoculated in horses, would produce the equine disease. However, the St. Louis type of virus has never been found occurring naturally in horses.

Equine encephalomyelitis is equally important to public health. In 1938, eastern type virus was recovered from human cases of en-



**Distribution of infectious equine encephalomyelitis, according to type of virus.**

cephalitis by Fothergill, Dingle and Fauber, and later by Webster and Wright. In the same year, Beatrice Howe in California recovered western type virus from human cases of encephalitis. According to Leake (Public Health Reports, 36: 1902, 1941), an epidemic of human encephalitis involving more than 2,000 cases occurred in North Dakota, South Dakota, Montana, Minnesota and Nebraska in 1941. Before and during this epidemic, encephalomyelitis was epizootic in horses in the same localities. Epidemiological and clinical observations indicated that the epidemic was caused by the western type of equine encephalomyelitis virus. Western encephalomyelitis virus was recovered from eight human brains by workers of the United States Public Health Service, and also from three horse brains from North Dakota. Experimental evidence indicates that many animals and birds are natural hosts to the virus of equine encephalomyelitis and may be reservoirs of infection. There is still much work to be done along this line.

Since 1935, when the federal Bureau of Ani-



mal Industry began to accumulate data, 447,813 cases of the equine disease have been reported. The years of 1937 and 1938 were the peak years of the disease with approximately 175,000 cases per year. There was a decided drop to less than 10,000 cases in 1939, which is perhaps one half the vaccine actually used. It was reported that 213 vaccinated horses and mules developed the disease. The incidence in unvaccinated animals was more than 13 times as great as in vaccinated animals. However, it is pointed out that proper evaluation of vaccination in the field is impossible, due to lack of complete data, the use of only one instead of the recommended two doses, and failure to exclude cases occurring in less than ten days following vaccination.

As the most desirable procedure, the Bureau recommends vaccination one month or more before the disease usually appears in the locality. Two doses of the proper type vaccine should be administered intradermally with an interval of one week between the first and second injections. Repeated observations of the vaccinated animals should be made and accurate records kept. Suspected cases of the disease (in vaccinated animals especially) should be checked by laboratory examination whenever possible.

#### DOURINE

This disease, caused by *Trypanosoma equiperdum*, is becoming more widespread in recent years. It was definitely recognized in the United States for the first time in 1886. Since that time, it has appeared on several occasions in various parts of the country, and in each instance the Bureau of Animal Industry has enforced vigorous eradication measures. Quoting from a communication from Dr. L. T. Giltner, Senior Veterinarian, United States Bureau of Animal Industry, "In the dourine eradication program, which has been in progress for a long time in several of the western states, an acceleration of the work occurred from 1939 to 1943 on account of the discovery of new areas of infection. Data on the number of horses and mules tested by complement-fixation and the number of positive reactions in the past fiscal years are as follows:

YEAR	NO. ANIMALS TESTED	NO. POSITIVE
1939-1940 .....	505.....	1
1940-1941 .....	22,417.....	446
1941-1942 .....	79,013.....	905
1942 to date.....	23,193.....	257

Since 1939, over 11,000 animals in the various counties of Nevada have been subjected to the complement-fixation test, nine of which gave positive reactions.

"In 6 counties of California (Los Angeles, San Bernardino, Orange, Imperial, Riverside

and San Diego), all horses and mules, totaling 28,978, were subjected to the test; 46 gave positive reactions. In Garfield county, Colorado, several hundred animals were subjected to the test and one gave a positive reaction. In Arizona, dourine was found in 12 counties. The Papago Indian reservation, which is in Pima county, harbored the majority of the infected animals. To date, 69,865 blood-serum samples have been subjected to the complement-fixation test; 1,165 gave positive reactions. California, New Mexico and Texas have imported numerous animals for use in preparing dog foods and chicken feed, and it is now evident that most of the infection was brought into the United States from Mexico."

While it has been generally thought that dourine is spread from one animal to another by copulation, it is now considered possible that blood-sucking insects are capable of transmitting the disease. This would account for the large number of reactions that have been detected among geldings by the complement-fixation test since this work began.

#### INFECTIOUS ANEMIA

Equine infectious anemia or swamp fever, also known as malaria fever, slow fever, and mountain fever, has become a problem of serious concern to owners of horses and mules in all parts of the world, due to its wide distribution and its insidious nature. Until effective methods for its detection and control are perfected, it will continue to be one of the more important diseases of horses. This disease was not definitely diagnosed as a specific disease in the United States until recognized in Minnesota in 1903. During the period from 1903 to 1940, it has been authentically reported from 29 of the 48 states. In 15 of these states, diagnosis was confirmed by horse-inoculation tests. Although the incidence of the disease appeared to be on the wane from 1916 to 1928, since that time it has been reported from a number of new areas and again appears to be increasing in prevalence. With the exception of the Mississippi delta, where the disease appears to be well established and exists principally in the chronic form, outbreaks are chiefly of a sporadic nature, being confined to small areas and show little or no tendency to spread.

#### PERIODIC OPHTHALMIA

Periodic ophthalmia still remains one of our serious equine diseases. Although this disease has been recognized for more than 2,000 years, the cause has not been definitely established; as a result, we are still at a loss to know how to prevent or cure it. Periodic ophthalmia is not confined to any one continent but is rather widespread throughout the world. In the United States, according to reports, the disease seldom occurs west of a line drawn through the

middle of the Dakotas, Nebraska, Kansas, Oklahoma and Texas, but is common in all states east of this line. Limited field investigations conducted by the federal Bureau of Animal Industry in some of our Middle Atlantic states showed that the incidence varies from 0 to 30 per cent and estimated the monetary loss to be at least one-half million dollars annually.

While the exact cause of this disease remains unknown, there is evidence to suggest the following theories:

- 1) Hereditary
- 2) Environmental, such as low altitude, soil conditions, etc.
- 3) Nutritional deficiencies
- 4) Parasites
- 5) Infections

There is little in the way of medication which is of permanent value in the treatment or prevention of periodic ophthalmia. The use of drugs to dilate and contract the pupil, in order to prevent adhesions of the iris to the lens, and injections of foreign proteins such as sterile milk and typhoid vaccine, or the use of mercury and arsenical salts in the early stages of an attack will usually lessen the severity of the attack and help to prolong sight. As a prophylactic measure, it seems logical to advise owners to guard their horses against direct or indirect contact with affected animals and to discourage the breeding of infected animals.

#### GLANDERS

Glanders, a serious constitutional disease of horses and occasionally of other animals and man, is caused by a specific microorganism, *Bacillus mallei*. It was imported into the United States in the latter part of the eighteenth century. The disease at one time was quite widely disseminated throughout the United States but, during the present century, through the use of reliable diagnostic tests and improved sanitary measures, it has been practically eliminated. According to the report of the federal Bureau of Animal Industry, the last outbreak in the United States occurred near Dodge City, Iowa, in 1937 and 1938.

#### INFLUENZA AND STRANGLES

These two diseases, occurring separately and in combination, are probably the most contagious and widely distributed of any of our equine diseases. Influenza, like the disease in man and swine, is caused primarily by a filterable virus, while the causative organism of strangles is *Streptococcus equi*. It is common knowledge that our large auction markets and community sales are hotbeds of infection for both strangles and influenza and are the chief means of disseminating these diseases. At the present time, practically all outbreaks of these diseases can be traced directly to con-

tact with animals purchased from these sources. In these times, when horsepower is so essential to our agricultural production, these diseases are of vital importance. The Committee believes that more careful supervision of these auction markets as to sanitation and inspection of the animals sold should be enforced by our various state livestock sanitary officials as an aid to the war effort. Also, as an aid to preventing losses from these diseases, farmers should be educated to quarantine all newly purchased animals for a period of two to three weeks.

#### EQUINE BREEDING PROBLEMS

In comparatively recent years, a great deal of information has been published relative to problems of reproduction in the equine species. Research on the problem of equine abortion has been carried on at the Kentucky Agricultural Experiment Station for many years and much valuable data has been accumulated. The workers at this station, situated in the heart of the thoroughbred horse-breeding section of the United States, have had ample material favorable for both clinical and laboratory study. The president of the AVMA, Dr. W. W. Dimock, head of the Department of Animal Pathology, Kentucky Agricultural Experiment Station, presented a report of their investigations in equine abortion at the seventy-ninth annual meeting of the Association. From this report, it is interesting to note that a detailed study of 900 cases of abortion showed 60 per cent due to some infectious agent and 10 per cent due to twin pregnancies. In the remainder, some cases showed pathological changes and abnormalities which might be the causative factors, while in others there was no direct or remote evidence to explain the abortions. In this paper (published in the JOURNAL, vol. 102, No. 793, pp. 282-284), the author discusses the various infections causing abortion and methods for their diagnosis and control.

From the observations of those who have made a study of equine breeding, the following principles should be practiced in both large and small studs:

- 1) Use only healthy, normal stallions with proved breeding efficiency.
- 2) Breed only mares with healthy, normal genital tracts.
- 3) At time of service, practice strict sanitary breeding hygiene.
- 4) Protect the pregnant mare against equine infectious abortion by annual inoculation with infectious abortion bacterin at the fourth and eighth months of pregnancy.
- 5) Isolate all mares that abort until a definite diagnosis has been determined by bacteriological examination of specimens

from the fetuses and genital tracts of the aborting mares.

#### PHENOTHIAZINE AS AN ANTHELMINTIC FOR HORSES

Within the past few years, the efficiency of phenothiazine as an anthelmintic for the elimination of strongyles has been proved by many investigators. The effect of the drug on ascarids and bots, however, is practically negligible. Early reports on this drug, emphasizing its wide margin of safety, led to considerable promiscuity in its use and to disastrous results in numerous cases. Reports on the use of this drug definitely indicate that a post-treatment anemia and albuminuria occurred in some cases. This was particularly true in the early use of phenothiazine when doses of 75 to 100 Gm. were common. It has been shown since that much smaller doses do not lessen its efficiency as an anthelmintic and have the advantage of largely eliminating the toxic effects. At present, the recommended dosage ranges from 30 Gm. for the smaller, mature, lighter breeds to 50 Gm. for mature, draft breeds. There seems to be little difference in the efficiency of the drug whether or not the animal has been deprived of food prior to medication. In the *JOURNAL of the AVMA* (Nov. 1941, vol. 99, No. 776, p. 408), there is a report on the use of "Phenothiazine—Carbon Disulfide Mixture in the Treatment of Gastro-Intestinal Parasites of Horses" by Boley, Levine, Wright and Graham. In this experiment, twenty-four Percheron horses were treated with a mixture of phenothiazine (40 Gm.) and carbon disulfide (24 cc.) administered in capsules following a fasting period of thirty-six hours. The results indicated a successful elimination of bots, ascarids, and strongyles without objectionable reactions. This combination treatment has an advantage in that all the more common gastrointestinal parasites can be removed with one treatment, thus saving time and expense. Further data should be accumulated, however, before this plan is recommended as a routine treatment.

#### NUTRITION

Of all our farm animals, the horse has possibly been given the least consideration from the standpoint of carefully conducted research in the field of nutrition. Occasionally, abnormalities of nutritional origin are reported in horses. Most of these reports originate from army remount stations, and are based on observations of large numbers of animals. Kelsner and Callender reported on the high incidence of equine degenerative arthritis occurring in the Canal Zone; Greenlee previously had made similar observations. However, little has been done in an organized, planned experiment to produce nutritional disease in horses. It is, therefore, gratifying to see the report of Howell, Hart, and Ittner, from the University of California in the *American Journal of Vet-*

*erinary Research* (Jan. 1941, vol. 2, No. 2, pp. 60-74) on vitamin A deficiency in horses. Their results clearly indicate that vitamin A deficiency results in night blindness, lacrymation, keratinization of the cornea, respiratory symptoms, reproductive difficulties, capricious appetite, progressive weakness and death. In all cases, there developed joint involvement with lameness and characteristic rarefying lesions in the joint cartilages. The authors are to be commended for this fine piece of research in a field long neglected. Further research in equine nutrition is definitely needed and should receive the support and encouragement of this organization.

#### RECOMMENDATIONS

In conclusion, the Committee recommends:

- 1) That the American Veterinary Medical Association, through its Research Council, encourage further study in the field of equine diseases transmissible to man.
- 2) That the various state livestock sanitary associations exercise more careful supervision over large horse-auction markets and community sales barns, in an effort to prevent the spread of influenza, strangles, and other communicable equine diseases.
- 3) That the American Veterinary Medical Association, through its Research Foundation and the Inter-Association Council, promote research studies on the nutrition of the horse. This phase of nutritional study has been neglected and in order to obtain scientific facts and basic data for the proper feeding of these animals, such research work is essential.

s/R. T. SEYMOUR, *Chairman*

N. D. BACKUS

W. R. KRILL

JAMES FARQUHARSON

H. B. TREMAN

## Diseases of Small Animals

Following the 1942 meeting, President Dimock appointed the Special Committee on Diseases of Small Animals and requested that a report be submitted at the 1943 meeting.

The Committee has chosen the following subjects for discussion on account of their importance and timeliness. We appreciate that there are many other subjects pertaining to small animals which might have been dealt with, but future committees may see fit to give them consideration.

#### MALNUTRITION

The past year has witnessed some drastic changes in the feeding of dogs. The supply of fresh meat for civilians was sharply reduced and rationed; therefore, a very low supply has been available for dog-feeding purposes. The



effects have been most noticeable in puppies. Practically speaking, they seem to lack the stamina and sturdy growth which is produced when fresh meat is fed. In some instances, the meat shortage has led to a better state of nutrition in the so-called "spoiled" or "pampered" pet. Since the usual exclusive meat diet has been unavailable for these animals, the use of commercial dry foods of good quality and table scraps (milk, eggs, vegetables, cereals and fowl) has improved the nutritional state of many of these over-fed, yet nutritionally deficient, animals.

Some progress has been made in educating the public regarding the proper feeding of dogs and more people are seeking the advice of veterinarians for wartime feeding suggestions. The effect of these consultations is marked by closer cooperation between the practitioner and the client, resulting in improvement of many dogs disturbed by diet, but otherwise normal.

In spite of the scarcity of fresh meat, substitutes are generally available and are usually satisfactory. The dry foods have been improved (i.e. certain brands) by the addition of vitamins and the incorporation of a wider variety of ingredients suitable for dog feeding. Dehydrated foods, which were formerly marketed as meat and cereal mixtures in cans, help to meet the requirements of some dogs, but in general it is necessary to supplement these products with table scraps. In many areas, horse meat has been available but, with future curtailment of this item, it will be necessary for small-animal practitioners to be alert to give intelligent, practical information regarding meat substitutes. To forestall a marked reduction in the small-animal population, it will be necessary for practitioners to have a broad knowledge of foods available in their communities suitable for dog feeding, also the nutritional values of these items. Mere substitution of ingredients will not suffice to maintain nutritional balance. The objective to be sought is the maintenance of pet animals in a good state of nutrition, without drawing upon the limited supplies of protein and other essential ingredients needed for human food and feeds for food-producing animals.

#### CANINE DISTEMPER IMMUNIZATION

This subject is a contentious one and inquiry reveals that many practitioners are still far from satisfied with the results obtained in spite of the great divergence of methods employed. These include the use of vaccine and virus; vaccine alone, given in multiple doses; serum and virus; and virus alone. A limited number of veterinarians have given up vaccination entirely because of generally unsatisfactory results. However, the majority of veterinary practitioners continue to attempt to immunize dogs against the virus of Carré. This latter group feels that a uniformly good end-result is

obtained and are able to satisfy themselves that the immunity established by the particular method they have employed is solid and permanent. The usual explanation for "breaks" is that the virus of Carré is not involved but that some other disease entity or condition with similar complicating symptoms, is the cause.

The most recent biologic product presented to the profession for use in immunizing dogs against the virus of Carré is a modified virus obtained from ferrets. The explanation supporting this method of immunization is a new concept of virus disease control. If the hypothesis advanced by Green can be substantiated, the new method will be a great contribution.

While the profession owes a debt of gratitude to the biological firms for the research they have conducted, it is to be regretted that most of the available literature on the subject of distemper immunization is that which is published by these firms. It seems that enough time has elapsed and a sufficient number of dogs have been inoculated with various agents to permit and justify some definite conclusions on the whole problem by practicing veterinarians. Individual methods of distemper immunization have been evaluated and reported on from time to time but nothing has been projected that offers a fair basis of comparison of the various methods. Therefore, this committee recommends that this association foster such an investigation and encourage some agency to conduct the work of making comparative tests under controlled conditions, so that the undertaking of distemper immunization will not fall into complete disrepute.

The vagaries of the several neurotropic viruses and bacterial pathogens infective to dogs are still far from being understood. Unfortunately, simple, clinical, differential diagnosis of virus distemper from other distemper-like infections is not possible. In part, the solution of most of the problems which attend satisfactory diagnosis of these conditions hinges on the employment of laboratory methods, which, for many reasons, are not generally employed. Where they are used, especially before the administration of immunizing agents, much can be accomplished by the practitioner in avoiding attempted immunization of patients which, when presented, appear clinically normal but when subjected to a hemogram are revealed as unfit for any agent except antiserum.

The Special Committee on Diseases of Small Animals should be in a position to gather sufficient data which could be evaluated and which would result in real assistance to all veterinary practitioners. It is problematical whether questionnaires, circulated among practitioners throughout the country and dealing with the subject of distemper immunization, would sup-

the facts that should be ascertained, in view of the wide diversity in techniques employed, biologic products used, and conditions prevailing in different localities. Therefore, repeat, investigations of the comparative values of various agents now employed for distemper immunization should be established at the earliest possible moment.

#### LEPTOSPIROSIS

This disease, which affects dogs, cats and rodents, especially rats, has been present in the United States for many years and probably ranks next to canine distemper in seriousness, if not prevalence. In this country, two strains of the organism (*Leptospira icterohemorrhagiae* and *L. canicola*) are encountered. There is no satisfactory treatment for this disease, in spite of the fact that an antiserum has been offered for use. Antiserum may be of some value in certain early-diagnosed cases, but cannot be relied upon generally.

Leptospirosis occurs as Weil's disease and canicola fever in man, and therefore presents a public health problem and an occupational hazard which must always be given consideration. Public health authorities are recognizing Weil's disease and canicola fever more frequently than in the past. Doubtless, members of the medical profession are more alert and, therefore, more likely to recognize these diseases than formerly. The same applies to veterinary practitioners and canine leptospirosis. The problem of controlling these maladies rests with health officials charged with the extermination of rodents, especially rats. These pests maintain themselves in storm sewers and sewage mains and thereby propagate their kind as well as leptospiral infections. As matters stand, veterinarians should be consulted in any discussions involving these diseases. They may well point out to their local sanitary officers that much work is to be done if this problem is to be solved before it becomes a serious public health hazard.

In an effort to explore the situation, the Illinois State Veterinary Medical Association appointed a special committee to study the distribution and mortality in leptospirosis-affected animals during 1942. Questionnaires were sent to veterinarians in 14 Illinois counties. In the report<sup>1</sup> made on Jan. 22, 1943, this committee stated that practitioners in 6 of these counties did not encounter the disease. In the 8 counties where the disease appeared, reports showed the presence of 308 cases, of which 275 were confirmed by laboratory examination (*L. icterohemorrhagiae*, 187; *L. canicola*, 88). Patients showing jaundice numbered 179. The ages of affected dogs ranged from

2 months to 14 years. Sex was reported in 240 cases, which were represented by 152 males and 88 females. Of the 308 cases presented for treatment, 266 (86.36%) died, or euthanasia was invoked before treatment was instituted. The wide range of therapy employed, which included nutritional, bactericidal, biological and supportive agents, clearly indicates the dilemma of the practitioner when leptospirosis is encountered, especially in the later stage, which is usually the case.

It should be noted that in the Illinois survey a very high percentage of the diagnoses were confirmed by laboratory tests. This is probably due to the simplified agglutination test which many practitioners have found useful. The chief drawback is the fact that agglutinins in the blood are not in sufficient abundance to be of value in making the test for from five to fourteen days after the appearance of initial symptoms. Therefore, most patients are either dead or recovering before diagnosis can be confirmed. It is appreciated that in the conduct of controlled laboratory research, a diagnosis can be made more promptly, particularly by reason of the available facilities, and full knowledge of the nature of the infection.

The Committee recommends that state and provincial veterinary associations be requested to make investigations to determine the existence of leptospirosis and related conditions within their boundaries so that an appraisal can be made of the disease in the United States and Canada, the information obtained to be correlated by this committee and published.

#### RABIES

This disease must be dealt with more or less constantly in view of the lackadaisical approach which has been made up to this time by authorities vested with the power to employ eradication measures. It may be safely stated that the indifference of the majority of the political officers charged with the enforcement of measures that could in time make the United States rabies-free only serves to cost human lives, cause serious livestock losses and increase taxes. Official procrastination and the failure to coördinate state laws should not have to be tolerated by dog-owners, livestock owners, and veterinarians who are called upon to treat pets and livestock which have been attacked by roaming, infected animals. It is realized that predatory animals also harbor the rabies virus and are a real cause of its perpetuation. Nevertheless, the whole matter lies in the hands of those officials responsible for the enforcement of such laws as exist; if none exist, regulations having the effect of law should be put into operation.

The Special Committee on Rabies of this association has been tolerant in suggesting remedies for the conditions herein mentioned. The members are to be complimented on their

<sup>1</sup>First report of the Special Committee on Canine Leptospirosis, Illinois State Veterinary Medical Association, presented at Springfield, Jan. 22, 1943. In press.

attitude. Without going into the ramifications of the rabies problem, it is the belief of the Special Committee on Diseases of Small Animals that those members who represent the AVMA on the National Rabies Committee should call the attention of the United States Live Stock Sanitary Association to the following facts:

At this time, there are only 21 states which require a health certificate to accompany a dog in transit on a common carrier. Of these, 17 states require rabies vaccine to have been administered at least fifteen days prior to or at least within one year (the period varies from fifteen days to one year in different states) of the shipping date. These inconsistencies, even though they help in the over-all control, do not register well with dog owners and many veterinary practitioners. What prompts the absence of health certificates for dogs entering states where rabies is reported not to exist? Certainly the whole picture is one to create misgivings in the minds of veterinarians and of dog owners who travel on common carriers. In the instance of dogs carried across state boundaries in private automobiles and other conveyances, there is an avenue permitting the spread of rabies, which leads to the conclusion that the whole picture is one of writing laws only for purposes of expediency.

With these thoughts in mind, the Committee feels compelled to advocate the promulgation of a federal rabies law, the enforcement of which would place rabies in the category of other transmissible diseases of animals which are subject to regulation by our federal authorities, even though the element of interstate commerce is not involved.

#### DOGS FOR DEFENSE

The organization, Dogs for Defense, Inc., is the official voluntary, charitable procurement agency for war dogs for the Army, Navy and Coast Guard, and it is expected that it will shortly serve in a similar capacity for the Marines. While the actual number of dogs in the service cannot be divulged, as many as 400 animals a week have been turned over to the various branches of the service by Dogs for Defense. The procurement of dogs for service is accomplished through the generosity of individual owners. This is brought about through publicity rather than by solicitation. A person wishing to donate his pet to the service notifies the regional director of Dogs for Defense in his own state, who then has the prospective donor fill out a service questionnaire. The questionnaire is brief but thorough and covers such questions as age, breed, sex, training, attitude toward strangers, disposition, habits, storm-shyness, gun-shyness, distemper, vaccination and general health conditions. All dogs accepted must be at least 20 in. at the

shoulder, weigh a minimum of 50 lb. and be from 1 to 5 years of age. Only 28 breeds and crosses of certain breeds are acceptable. Dogs volunteered for service are examined by a representative of Dogs for Defense and if deemed suitable are forwarded to a shipping center. At the shipping center the dogs are placed in government crates, become the property of the government and are thence transferred in a group to one of the six service training areas. All dogs are examined at the shipping point by a veterinarian. Veterinarians making these inspections are not part of the formal program in that the fee for these examinations is set by the veterinarian. In the majority of cases, either the examination is gratis or only a nominal fee is charged. The scope of the examination is determined by the area from which the animal originates, i.e., in areas where dirofilariasis is enzootic, the examination includes a blood examination for the presence of these parasites.

Upon arrival at the training area, each dog is examined by three men, including veterinary officers, to determine the physical condition of the animal. If any dog is rejected at the training area, the owner is directed to accept return of the animal within ten days or approve disposal of it at the discretion of the officials of the training center.

Dogs for Defense is now operating at least one breeding place. Suitable bitches are donated for breeding purposes only. Stud services are, likewise, donated.

The function of the Army Veterinary Corps with war dogs is to protect their health and preserve their physical efficiency. Upon receipt at War Dog Reception and Training centers, dogs are under direct control of veterinary officers in respect to professional treatment, quarantine and isolation. All dogs are promptly given a thorough physical examination and those found to have mange, filariasis or physical defects which, in the opinion of the veterinary officers, will impair the dog's usefulness, are disposed of as described above. All dogs passing the examination are vaccinated against rabies and those under 2 years of age are immunized against distemper (virus of Carré). At frequent intervals during the training period, dogs are examined for external and internal parasites and, where indicated, appropriate treatment is administered by veterinary officers.

Dogs for sentry duty are trained in four to five weeks. After completing their training, provisions are made for veterinary service for war dogs wherever they are assigned for duty.

Handling, feeding, housing and training are functions of the Quartermaster Corps. However, the veterinary service is responsible for investigating hygienic and sanitary conditions



of animals in the Army and making recommendations with respect thereto.

The quarantine period for new arrivals at War Dog Reception and Training Centers is twenty-one days. Dogs suspected of infection with contagious or infectious diseases are handled with as much precaution as if known to be infected until a definite diagnosis has been made by the responsible veterinary officer.

Either phenol-treated or chloroform-inactivated types of rabies vaccine are used. Three subcutaneous injections of rabies vaccine are administered seven days apart. The initial dose is 2 cc., the second 3 cc. and the final 5 cc.

Canine distemper immunization is carried out by the use of two 5 cc. doses of vaccine given subcutaneously seven to ten days apart, followed in fourteen days by the injection of 10 mg. of dried viable virus in 1 cc. of diluent.

#### RECOMMENDATIONS

The Special Committee on Diseases of Small Animals recommends:

1) That state and provincial veterinary associations be requested to make investigations to determine the existence of leptospirosis and related conditions within their boundaries so that an appraisal can be made of the disease in the United States and Canada, the information obtained to be correlated by this committee and published.

2) That a federal rabies law be enacted.

3) That a liaison be established to coordinate the work of the Section on Small Animals and the Special Committee on Diseases of Small Animals so as to avoid duplication of effort and conflict of recommendations.

4) That a special committee on diseases of wild animals in captivity be created. Our committee feels that there is need for the discussion of diseases which affect the small as well as large animals maintained in zoological gardens, but we do not feel that the Special Committee on Diseases of Small Animals should deal with these subjects.

5) That the Special Committee on Nomenclature of Diseases and Vital Statistics not overlook the need for study of the nomenclature related to the field of small animals.

6) That, in view of the importance of diseases of small animals and their relationship to public health, this special committee be continued:

s/E. C. KHUEN, *Chairman*

L. J. GOSS

J. L. RUBLE

H. H. GROTH

A. C. SECORD

## Diseases of Beef Cattle

The appointment of a committee, by the president of the American Veterinary Medical Association, to report the status of diseases of beef cattle comes at a time when our nation is

faced with a critical livestock and meat situation. This emphasizes the necessity for all groups concerned with the livestock and meat industries to unite in a concerted effort to meet the problems facing us at this time.

The number of cattle and calves on the farms, at the beginning of 1943, was larger than in previous years. This is the case in spite of the fact that cattle and calf slaughter in 1942 was the largest on record. The 1943 slaughter goal for cattle and calves has been set at a little over 30 million head. The strong demand for beef has held live cattle prices at the highest levels permitted by beef price ceilings.

Reports from the Cornbelt indicate that the increase in cattle feeding this year results from an increase in the number of farms feeding cattle, rather than from an increase in feeding by regular cattle feeders. Along with increased slaughter there has been a demand for breeding animals. With labor shortages and other production problems becoming increasingly acute, the necessity for renewed vigilance in combating disease problems and other factors which may result in decreased numbers, marketing losses, and poor utilization of feed stuffs is apparent. A large proportion of the responsibility for the prevention and correction of these losses falls squarely upon the shoulders of the veterinary profession.

The problems discussed in this report are those which, in the opinion of the Committee, are of the greatest importance. It is admitted that the list could be expanded indefinitely.

It is not the intention of the Committee to discuss meat inspection, but it is in order to call attention to the benefit that may be derived from a study of the reports from those engaged in antemortem and postmortem inspection of animals sent to the packers. In a study of the meat inspection records, it is shocking to most of us to learn that there were 1,230,000 beef livers condemned for all causes under federal inspection in the United States during 1942—a waste of 15,370,000 pounds of valuable food. Of these livers, 50 per cent were condemned because of abscesses. Research projects are in progress in an attempt to ascertain the cause of these abscesses. The University of California is conducting tests to determine the relation of rations low in vitamins to liver abscesses. Colorado State College is investigating the possibility of abscessed livers being associated with calf diphtheria and other diseases in which the organism *Actinomyces necrophorus* plays a primary or secondary rôle. There is a definite need for additional research on this problem. The University of Wyoming is also working on the bacteriological phases of the problem.

Liver flukes were responsible for considerable loss in western and midwestern states.

Programs to control this parasite should be energetically pursued.

#### KERATITIS

The Yearbook of Agriculture (1942, p. 557) has the following to say about keratitis:

"Inflammatory diseases of the eyes of cattle are referred to as ophthalmia, conjunctivitis and keratitis, the term used depending somewhat on the parts of the eye involved or the extent of the inflammation. The common name for all of these is 'pink eye.' Neither term, keratitis nor pink eye, is good, and both are misleading. The disease is widespread throughout the country."

There are practically no fatalities from the disease, but it has an economic aspect because of loss of weight and growth and it sometimes results in permanent impairment of vision, although the spontaneous recoveries are miraculous.

A number of investigators have reported success in transmitting the disease, but to date no single specific cause has been detected.

Treatment and prevention are unsatisfactory and will remain so until more is known about the etiological factors.

The Committee urges those who can to contribute their resources toward the solution of this problem.

#### NATIONAL LIVESTOCK LOSS PREVENTION BOARD

The Committee wishes to call the attention of the veterinary profession and the public in general to the splendid work that is being done by the National Livestock Loss Prevention Board.

Among the directors are representatives from the railroads, stockyards, packing industry, humane organizations, the veterinary profession, United States Department of Agriculture, wool growers, swine production groups, the tanning industry, and fire insurance companies.

The Board can be assured of the full support and assistance of the veterinary profession in the solution of any of the problems that fall within its sphere of endeavor.

The following brief report furnished us by W. T. Spencer, regional manager of the National Livestock Loss Prevention Board, shows the need for the combined effort of all of us in helping to curtail losses in transit.

"For the year 1942, there was a loss of 2,655 cattle during the movement from farm to stockyards at the principal market centers. There were 8,074 crippled. At the same markets, there were 3,222 calves that died in transit and 2,917 that were crippled. These figures are for the markets on which we have definite records. It is estimated that in all markets there were about 4,500 cattle that died in transit, representing about 2 1/2 million pounds of beef; and

10,000 calves, representing about a million pounds of beef, or a total of about 3 1/2 million pounds.

"The loss in the stockyards after arrival and before the animals are slaughtered is thought to increase these figures about 20 per cent. We do not have definite figures on losses in the yards, but the figures in transit have been compiled from official records."

#### MASTITIS IN BEEF COWS

The losses resulting from mastitis are not confined to dairy cows. It is a common disease of beef cows, and the losses from it are great. Since it is impractical, and usually impossible, to examine the milk and the mammary glands of beef cows, the disease is generally not diagnosed, except in the most serious cases. Attention is generally directed to it only by the unthrifty condition of the nursing calf. If one has not been given the opportunity to observe mastitis in beef cows, it may come as surprise to learn of the importance of this disease, not only because of the failure of the cow to nourish her calf properly, but because of the loss of weight of the cow. Due to the differences in environment, the etiology and control measures involved in mastitis in beef cows is at variance with the disease in dairy cows. Few dairy animals are exposed to the extremes of heat and cold, insect bites, and mechanical injuries that involve the beef herd. On the other hand, the beef cow is exposed to the bacteriologic agents of mastitis to a far less degree than her dairy sister. These differences make the problems of prevention, control, and treatment of mastitis in the beef herd a different matter than those encountered by members of the profession whose practice is confined to dairy animals. More research in this field is a pressing need.

#### NECROPHORUS INFECTIONS

A long list of diseases are attributed to *Actinomyces necrophorus*. There is a possibility that it is a secondary invader, and that the primary etiologic agents of these diseases are unknown. Among the diseases in which the organism is found, which are accompanied by local necrosis and more or less circumscribed phlegmons, are ulcers in the mouths of calves, laryngitis, and enteritis. The organism may also be isolated from abscessed livers, lungs, and kidneys, and phlegmons of the interdigital area involving skin, plantar pads, synovial sheathes, tendons, joints, bones, and hoofs. The losses in flesh, deformities, metastatic abscesses, and mortalities place this organism high in the list of pathogens.

Fortunately, sulfapyridine is proving to be an effective remedy when administered orally and applied locally to the lesions. The practitioners who have not tried the newer chemotherapeutic agents for the several diseases pro-

duced by *Actinomyces necrophorus* have not kept abreast of scientific developments.

#### COCCIDIOSIS

A few years ago, investigators at Virginia Polytechnic Institute found that coccidia are almost universally present in cattle of all ages and all environments. Although small numbers of the organisms do not produce clinical evidence of disease, they are undoubtedly a tax upon the productive capacity of the animal. Occasionally, the infection becomes severe enough to produce a clinical form of coccidiosis, manifested by bloody diarrhea, rapid loss of flesh, and debility which is often followed by death.

While the disease is primarily one of young animals, mature individuals are by no means immune. Recent work at the Regional Laboratory for Animal Diseases at Auburn, Alabama, has shown that there are a large number of species of the genus *Eimeria* which affect cattle. They have also shown that sulfaguanidine may have some therapeutic value. However, many treatments have had their rise and fall so that, as yet, we are unable to make positive recommendations with the assurance of results.

The disease is common among baby calves in the feedlot, where the sanitation is not good and the feed and drinking water become contaminated with infective fecal matter. While sulfaguanidine and symptomatic treatment should be employed in an outbreak, the greatest dependability should be placed upon sanitation for prevention of the disease.

#### BOVINE TRICHOMONIASIS

The extent of trichomoniasis among beef cattle is not definitely known. Recent work at the Wisconsin Agricultural Experiment Station seems to indicate that in that area, at least, approximately 1 per cent of the adult female cattle slaughtered are infected with *Trichomonas foetus*. In view of the status of our diagnostic methods for this condition, it is probably more prevalent than most veterinarians suspect. The organism has been reported in approximately 75 per cent of the states in the United States, and the failure of the states to report this condition is probably the result of inadequate diagnostic methods. Information available at present indicates the necessity for further research and more adequate methods to obtain an accurate and complete survey of the extent of this infection. Treatment of the condition by the use of many of our present known intrauterine antiseptics seems quite adequate in curing an infection already present. The need for more adequate diagnosis so that infected animals can be isolated and treated is evident.

#### PNEUMONIA

Calves are subject to pulmonary diseases of varying symptomatology and degrees of virulence.

The situation as a whole resembles influenza in the human subject and varies in severity from slight depression, cough, and nasal discharge to pneumonia and death.

W. T. S. Thorp (Pennsylvania State College, Am. J. Vet. Res., 3, (Apr. 1941)), reports that, "attempts to introduce pneumonia in calves by inoculations of hemophilic-like bacteria did not meet with consistent or conclusive results."

The disease appears in young animals that have not been exposed to shipping hazards, but the frequency with which it does occur has led to the term "shipping fever."

Preventive vaccination with commercial preparations has given varying degrees of protection. The part played by the hemorrhagic septicemia organism is controversial.

Pneumonia, or shipping fever, in feeder steers is a hazard when cattle are brought into the Cornbelt during the fall, winter, and spring. Some favorable reports have been made upon the administration of hemorrhagic septicemia serum just prior to shipping.

The most successful treatment is by the use of the sulfa drugs. Sulfathiazole seems to be the one of choice, although sulfanilamide may be substituted in the larger cattle. H. W. Johnson's (Colorado State College) intravenous treatment of potassium gualacol sulfonate, sodium iodide, alcohol, and distilled water is beneficial when administered early. Dextrose intravenously is indicated in debilitated animals.

An educational campaign to instruct the cattle feeders in the proper handling of these cattle when they arrive at the feedlot, placing special emphasis on feeding and housing, would aid in the prevention of this malady.

#### GRASS TETANY

Tetanic convulsions in cows and calves is of comparatively common occurrence. The syndrome is associated with a wide variety of histories and conditions. In fact, tetanic convulsions can be caused by any one or several combinations of causes. As a result, a number of terms, such as transportation disease, fright disease, etc., have been applied to the syndrome, the principal symptom of which is a convulsion.

Franchiger and Hoffman (Dieherven Krankheiten des Rindes) classify tetany into five groups, according to its association with such conditions and diseases as gastroenteritis, coccidiosis, intoxications, tetanias associated with parturition, and tetanias associated with disturbances of the parathyroid (Tetanie parathyriopriva). When one considers that the parathyroid is a partner of vitamin D in calcium metabolism and that the parathyroid-Ca-D trio are very closely related in action to the autonomic nervous system, it is no wonder that the solution of some of the problems becomes extremely difficult, especially when one contemplates the permutations and combinations which are possible.

Investigators who are working upon the pos-



sible solution of the problem called "grass tetany" are dealing with one or more diseases of similar symptomatology. This makes for confusion when it comes to comparison of data.

A condition called grass tetany is being reported in widely separated districts. Serious losses have been suffered in Kentucky, Wyoming, and Texas. W. W. Dimock states that the disease has been known in Kentucky for twenty-five years. A. F. Nolan and F. E. Hull (*Am. J. Vet. Res.*, 2, (Jan. 1941): 41), made an exhaustive study of the disease. They describe the clinical syndrome and results of determinations of glucose, protein, Ca, P, and Mg in the blood of affected animals.

They found that Ca, in grass tetany cases, ranged from 4.19 to 8.15 mg. per cent, with a mean of 6.63 and quote Sjollem as finding a mean of 6.65 in 55 cases, and also that the Mg normal is about 1.66 mg. per cent and in grass tetany cases 0.46 is significantly low.

They state that in strict Mg deficiency, Ca and P levels remain normal.

H. D. Port, state veterinarian of Wyoming, reports as follows upon a disease called grass tetany:

"This condition has occurred throughout eastern Wyoming, and appears soon after green grass is available. In most instances, cows nursing calves have been affected.

"I would hesitate to estimate the mortality in Wyoming from this condition, other than to say I know in some individual herds the loss varied from 2 to 5 per cent. Most of the cattle in the area where the condition prevails are maintained under range conditions, and for this reason veterinarians have treated only a limited number of cases, as the greater percentage of the affected cattle die before the owner finds them.

"Calcium gluconate, phosphorus and magnesium have been administered intravenously by Dr. Good of Wheatland in these cases suspected of grass tetany. He estimates about 60 per cent of cases so treated have recovered."

S. S. Wheeler, in a private communication, reports that "We endeavored to find out whether or not certain types of rations had any effect in controlling losses. The results of this phase of the investigation may be summarized as negative. There is some evidence to indicate, that weather or other environmental conditions may have a bearing on the trouble."

From the splendid type of work being attempted by several groups of investigators, especially the biochemists, we may hope for a solution of the problem in the not too distant future.

#### URINARY CALCULI

Urinary calculi is a problem in feeder steers throughout the Cornbelt. It occurs in all breeds of cattle and in all ages, from calves just weaned to 2-year-old steers.

The exact etiology of urinary calculi is problematical. It occurs in localities where cattle are watered from deep wells and the water contains excessive amounts of lime. Some claim that an inadequate water supply tends to develop calculi. It appears in native midwest cattle and also in cattle shipped from the western ranges.

Urinary calculi are known to be associated with vitamin A deficiency. The condition also occurs in animals that are not deficient in vitamin A.

The Colorado Experiment Station reports that out of 80 steers experimentally depleted of vitamin A, only one developed urinary calculi. Further, it is their opinion that more than one cause may be at work at the same time.

The Nebraska Experiment Station reports that as little as one-half pound of alfalfa hay per day prevents death losses from urinary calculi in feeder wethers.

The condition can be remedied by ischial urethrotomy as described on page 457 of the November, 1940, issue of the *Journal of the American Veterinary Association*. If this operation is performed before the bladder ruptures, the steer can be kept in the feedlot until he is finished. The Committee urges that research in this direction be continued.

H. E. KINGMAN, SR., *Acting Chairman*

H. E. CUREY

J. K. NORTHWAY

J. C. CAREY

I. D. WILSON

#### Joint Committee on Foods

Dislocations resulting from the war have directly affected food production and distribution. Available ingredients for preparing rations are very scarce. The work of the Committee on Foods has, therefore, been directly affected. The necessity for complying with constantly changing federal regulations has further complicated the work of the Committee and the producers of animal feeds. The problem has been handled as situations were presented and although it has been necessary to revise many of our original concepts and procedures it is believed that the services rendered have been of benefit to the United States Government, animal owners, veterinarians, and producers of pet animal foods.

Four regular meetings of the Committee were held in Chicago during the year. At the November meeting representatives of the manufacturers of approved foods were present. The Committee advised the producers that it would be necessary to maintain a minimum standard of quality—that no compromise of the seal would be permitted and unless producers could continue to meet these requirements it was indicated that the seal would be discontinued. The producers stated that sufficient quality ingredients were available or under contract to con-

time to meet the minimum standards of the Committee and it was their desire to have the program of testing and approving dog foods continued.

Since requests for information on feeding of dogs and cats in wartime were being received by the Committee from veterinarians, a circular mailing to all members was authorized (See exhibit A).

On Jan. 29, 1943, food order 7 was issued by the Food Production Administration. This order, in addition to limiting the volume of dog food which could be produced, prohibited the use of more than 24 per cent total protein, of which not more than 8 per cent could be of animal origin. All tested and approved products would violate the terms of this order should they continue production. Thus, of necessity, all formulas had to be changed.

In February, a second meeting was held with the manufacturers of approved foods to formulate policy and procedure which would be flexible and provide for the activities of this committee for the duration. Presidents Dimock and Engle of the AVMA and the AAHA, respectively, were present. At a regional meeting of the AAHA held in New York City it was recommended that the seal be discontinued and a substitute plan developed. This proposal was favored by the presidents of both associations. The Committee on Foods, therefore, instructed its secretary to issue discontinuation notices on March 1, to take effect May 1, 1943. (See J.A.V.M.A., April, 1943).

At the May meeting, a plan providing for cooperation with the War Food Administration was adopted. Doctors Engle and Morris were designated as the Committee's official representatives to attend a conference with the Meat Rationing Division of OPA to give consideration to the allotment of meat to veterinary hospitals.

The contract, rules, and regulations governing the functions of the Committee and the manufacturers were revised to provide for discontinuation of the seal of approval and substituted the statement, "Tested-Accepted, American Veterinary Medical Association and American Animal Hospital Association Committee on Foods" which could be used by manufacturers holding contracts for the testing of their products. This statement means that manufacturers of tested and accepted products comply with the rules and regulations which include chemical and biological tests. If the tested product is found to meet the requirements for quality acceptable to the Committee, in view of present limitations on ingredients and federal restrictions on the production of pet foods, then such manufacturers may use the official statement on the label and in advertising the product. Thus, a food may be tested and accepted by the Committee on Foods as being of reasonable quality when available

ingredients are used and wartime regulations met. At present, these products are required to meet maintenance requirements when fed as an exclusive diet to adult dogs. No foods are being tested for gestation, lactation, or growth. In the past, it has been the practice to conduct regular qualifying tests and retests using pregnant, lactating, growing, and adult dogs. Products bearing the tested and accepted statement will now be tested only on adult dogs to determine adequacy for maintenance.

These changes in procedure necessitated a careful examination of the chemical and biological methods employed by the Committee. Revisions were worked out in cooperation with the Advisory Scientific Council. A manuscript entitled "Use of the White Rat in Testing Dog Food" was prepared and submitted to the American Journal of Veterinary Research for publication.

Since of necessity the quality of ingredients formerly used in dog foods can not be maintained, the digestibility of the major constituents, *e.g.*, crude protein and dry matter, becomes more important. Accordingly, metabolism cages have been installed and routine digestibility studies are being conducted.

The revision of formulas raised an important question of "minimum standards." As part of the work during the past year, research has been conducted on the minimum amount of protein from several sources which will sustain adult dogs. The results of these and other studies have been requested by the National Research Council whose function it is to advise, on request, government agencies on such technical matters.

The Magazine War Guide published by the Office of War Information, a journal circulated to editors of magazines, carried a story in the September-October issue on the Wartime Feeding of Pet Animals. Included in this article was an ingredient list to aid veterinarians and animal owners in formulating war rations for pets; the Committee on Foods was designated as an authoritative source of information on this subject.

Following several conferences with the Meat Rationing Division of the Office of Price Administration, official regulations were issued by the government authorizing 12 ration points per week to the owners of guide dogs, these points to be used in purchasing meats of low point value.

An informal meeting of representatives of various interested organizations from the pet animal industry was called by the Food Production Administration. At this meeting, it was decided that a permanent advisory committee representing the pet animal industry should be appointed to serve in a consulting capacity to the War Food Administration. Veterinary representation on this committee is as follows: John G. Hardenbergh, Joseph B.

Engle, Leonard Goss, and Mark L. Morris. At the first meeting of this group, certain recommendations were made regarding pet food order 7, now F.D.O. 58. Subcommittees on public relations, breeding and control, and nutrition were appointed by Chairman David Meeker.

The Committee on Foods, through its executive secretary and biochemist, were consulted by the Veterinary Corps regarding rations for dogs in the K9 Corps and certain specific recommendations were made.

An educational exhibit was prepared for the Chicago meeting of the AVMA. The exhibit was well attended. Many veterinarians requested advice on substitutions which might be made for feeding hospitalized animals.

At the Chicago meeting of the AVMA, the subject of wartime care and feeding of pets was presented over station WBBM by Sydney Coleman, president of the American Humane Association, and Mark L. Morris, executive secretary of the Committee on Foods. This broadcast created sufficient interest to justify the preparation of script for five short broadcasts. These were given over local stations in a number of cities by veterinarians and persons from humane societies.

Dr. S. W. Haigler of St. Louis, Mo. was reappointed by Doctors Dimock and Engle to the five year term as a member of the Committee on Foods.

In the past year, considerable time and attention has been given to the development of suitable biological assay methods for the testing of horse feeds. At present, a testing project using laboratory animals is in progress at the University of Illinois under the direction of Prof. H. H. Mitchell.

During the year, one additional seal was issued to Vitality Brand Dog Food manufactured by Vitality Mills, Board of Trade Building, Chicago; two seals were discontinued, and one request was received for the use of the seal on a product produced and distributed in the Dominion of Canada.

The Committee's facilities for the care and housing of dogs at New Brunswick have been improved and additional laboratory facilities have been provided so that more rapid information can be obtained regarding foods bearing the statement of acceptance of the veterinary associations. (For details see exhibit B).

Our Committee has been represented by the secretary at a number of meetings and conferences, and several publications have been prepared. The most important ones are as follows:

#### *U. S. Government*

Two conferences, Veterinary Corps—Surgeon General's office.  
Office of Agricultural War Relations.  
Beltsville Research Center.

Three meetings, Meat Rationing Division, OPA.  
Two meetings, Office of War Information.  
Three conferences, Division of Biology and Agriculture-National Research Council.  
Three conferences, Food Distribution Administration.  
Four conferences, Food Production Administration.  
Two conferences, Food & Drug Administration.  
Two meetings, Pet Animal Industry Advisory Committee to WFA.

#### *Veterinary Meetings*

Iowa State College, Ames.  
Two regional meetings of the AAHA.  
Long Island Veterinary Medical Association.  
Annual meeting AVMA.  
Annual meeting, U. S. Livestock Sanitary Association.  
New York-New Jersey Veterinary Associations and Nutrition Symposium.  
Midwest Veterinary Conference, Kansas City, Mo.

#### *Other Meetings*

American Society of Animal Production.  
Two meetings, N. Y. Biochemical Discussion Group.  
University of Wisconsin.  
Seven conferences, New York City.

#### *Visits to the Following Plants of Dog Food Manufacturers*

One visit—Chappel plant of the Quaker Oats Company, Rockford, Ill.  
Two meetings, N. Y. Biochemical Discussion  
One visit—Vitality Mills plant, Chicago, Ill.

#### *Articles Prepared for Publication*

Manuscript, "Wartime Nutritional Problems Confronting the Veterinarian" for 1942 annual meeting of the U. S. Livestock Sanitary Association.  
Radio script for coöperative program with American Humane Association.  
"Results of Dog Feeding Tests Using Emergency War Rations" issued by the Office of War Information.  
Circular letter to AVMA members.  
Manuscript, "Use of the White Rat Testing Dog Foods."

S/J. G. HARDENBERGH, *Chairman*

CHARLES W. BOWER

S. W. HAIGLER

O. V. BRUMLEY

A. E. WIGHT

#### *EXHIBIT A*

#### *SUGGESTIONS FOR THE FEEDING OF DOGS DURING WARTIME*

Articles now appearing in the press are of direct concern to all veterinarians. For example: Part of a letter to the editor of the Chicago Tribune, Nov. 11, 1942, entitled, "Rationing Pets:"

"Is it fair to the civilized world that we



should maintain all these domestic pets for the duration at such a staggering cost when our own supplies are inadequate and so many innocent people in Europe are actually dying of starvation?"

England has already proved the fallacy of this idea so we should not duplicate their mistake.

*Tampa, (Fla.) Times—Nov. 19, 1942:* "I'll just fix up some good old corn bread for my dogs, with a little vegetable mixed in—they don't need so much meat, etc."

*Office of War Information, Wash., D. C.:* A recent release quoting Earle of the BAI, suggests a mixture of "yellow corn meal, wheat shorts, peanut meal, bone meal, salt and leafy greens or carrots."

The amount of contradictory information on feeding dogs which is appearing almost daily, only tends to confuse the animal owner.

Veterinarians are now being interviewed by local newspapers throughout the country to obtain suggestions on the wartime feeding of pet animals. These articles contain conflicting advice which will only serve to discredit members of the veterinary profession and further confuse pet owners. The practicing veterinarian should be aware that contradictory information is worse than none at all.

To aid in clarifying the situation, script for five broadcasts has been prepared, and is being distributed by the American Humane Association. These broadcasts are to be presented over approximately 150 radio stations from coast to coast by representatives of animal welfare organizations in cooperation with local veterinarians. The broadcasts contain practical and timely information on feeding, first aid, and care of animals in war-afflicted areas.

At the present time, ingredients used in the preparation of animal feedstuffs are largely in the hands of, or under contract to, manufacturers of commercial animal feeds. These ingredients are, therefore, not readily available to the average owner of pet animals. The use of properly prepared dry dog food of good quality, when available, will provide reasonably satisfactory nourishment for pet animals and at the same time avoid the use of foods intended for human consumption. This is very important during the present war emergency.

The amount of good quality dry dog food which can be made available is limited, however, due to wartime restrictions on quality ingredients, transportation facilities, and other limiting factors. Practitioners should keep in mind that pets can be maintained on meatless diets should it become necessary to do so. To formulate such rations is not a simple matter. Advice which is applicable to one area in the United States or Canada may not apply to another. Horse meat for example, is readily available in some areas, slaughter house by-

products in others, and cereals, fruits, or vegetables in still others.

In certain heavily populated urban areas, good quality dog foods are becoming hard to obtain. In such instances, home-made mixtures become a necessity. Temporary, even though biologically deficient, diets can be prepared from ingredients such as:

Stale bread (enriched preferable).

Small potatoes (boiled well, with skins).

Fats—drippings, suet, vegetable oils.

Cereals—left over wheat, oats or corn products, red dog flour, bran, etc. (cooked well).

Fish by-products or animal feeding oils, not human grade.

Tomato pomace, prune paste, sour or clabbered milk, whey or buttermilk, cottage cheese, boiled veal bones, ground, raw or cooked tripe.

# Formula for Temporary Menu to Make

## 1 Lb. Dog Food

Bone—veal, or other Dried bread, 6 oz.

soft, ground bone, 2 Boiled potatoes, 2-4 oz. to 3 oz.

Ground tripe, fish

Fat, ½ to 1 oz. products, other meat

Animal feeding fish by-products or milk

oils, 1 tablespoonful. by-products, 2 to 4 oz.

Veterinarians encountering serious difficulties in obtaining ingredients for compounding rations from local supplies may write to the Joint Committee on Foods, Box 641, New Brunswick, N. J. We will attempt in a later circular letter to answer as many of these inquiries as possible.

Your cooperation in aiding with this humanitarian effort is essential at this time.

JOINT COMMITTEE ON FOODS

M. L. MORRIS, Executive Secretary

## EXHIBIT B

LABORATORY OF THE JOINT COMMITTEE ON FOODS  
NEW BRUNSWICK, N. J.

## Statistical Record for the Year July 1, 1942- July 1, 1943

Routine fecal examinations.....	214
Routine filaria (blood parasite) examinations .....	15
Routine erythrocyte and hemoglobin determinations .....	55
Leucocyte and differential counts.....	20
Complete blood counts.....	13
X-ray examinations .....	2
Fluoroscopic examinations .....	1
Urinalyses .....	4
Digestability studies .....	31
Complete food analyses.....	31
Calculated food analyses.....	5
Dry matter, protein, ash determinations....	2
Dry matter, fat determinations.....	1
Protein, ash determinations.....	1
Protein determinations .....	3

## Sub-Committee on Veterinary Items, National Formulary Committee

The Committee on Veterinary Items of the National Formulary Committee has no formal report to make at this time. However, the Committee is able to report progress in the way of very cordial and satisfactory relations with the General Committee on Revision, which latter committee has sought and received information and advice from time to time on items of interest to veterinary medicine.

Our committee has also recommended several items for inclusion in N.F. VIII that are peculiar to veterinary therapeutic usage. Every consideration has been given to these recommendations and undoubtedly monographs will be prepared and included in N.F. VIII on certain of these items for which official standards should be established.

It has now become established that the past decennial revisions of the U.S.P. and N.F. are no longer adequate, and continuous revision with the issuing of interim supplements is now in effect. It is the plan that the formal revision of N.F. VIII will be completed so that the new N.F. VIII may be published late in 1945, to become official in July, 1946.

s/H. D. BERGMAN, *Chairman*

## Research Council

Two meetings of the Council have been held since the last report was made to the House of Representatives (*See JOURNAL*, Nov. 1942, p. 457). One meeting was held on Aug. 24, 1942, during the seventy-ninth annual meeting of the AVMA in Chicago. The other was held in Chicago on Dec. 1, 1942.

The Research Council has two main functions. The first is concerned with the fellowship project, which is fully described in a pamphlet issued by the Council in 1942. The second function is to furnish editorial advice to the editors of the American Journal of Veterinary Research.

Contributions to the fellowship project have been very few, and the number applying for fellowships has been small. These facts are easily understood when we consider the great changes brought about by the war. At the December meeting of the Council, it was voted to lay on the table until the next meeting of

the Council the matter of appointments to fellowships.

The editorial functions of the Council have continued as heretofore.

During the year, an additional division of the Council, that of Poultry Pathology, was created. Dr. C. A. Brandly is the member for this division.

At the December meeting of the Council, the officers of the previous year were re-elected: E. T. Hallman, chairman; R. A. Kelser, vice-chairman; H. H. Dukes, secretary.

s/H. H. DUKES, *Secretary*

## Association Representatives

### Representative to the American Association for the Advancement of Science

As representative of the AVMA to the American Association for the Advancement of Science, I beg to report that the annual meeting of the Association scheduled to be held in New York City at the regular time between Christmas, 1942, and New Year's Day was called off because of the war and transportation difficulties.

I have taken care of the correspondence that is required of the various members of the Council.

s/WARD GILTNER

### Representative to the Inter-Association Council of Animal Disease and Production

(At the annual meeting last year a report was made to the House of Representatives regarding the progress made up to that time with the establishment of an organization having representation from various associations concerned with the production and welfare of livestock. This report was duly accepted and a representative of the American Veterinary Medical Association was officially appointed. Those who wish further details will find the report in the proceedings of the seventy-ninth annual meeting.)

This is the first annual report of the Inter-Association Council on Animal Disease and Production and is submitted as of Aug. 1, 1943. In the future, the annual report will be prepared as of June 1. In the event that conditions should warrant, an addendum will be prepared as of November 15 of each year.

This organization was originally called The Inter-Association Committee on Animal Disease

and Production. However, as the Committee proceeded with setting up groups of consulting experts as subcommittees, it was found that it would be extremely difficult and confusing to operate as a committee with subcommittees from the cooperating societies having no official status as a part of the Committee. It was unanimously agreed, therefore, to change the name to The Inter-Association Council on Animal Disease and Production, and to designate those men who would lend assistance to the work as "consultants."

The minutes of the meeting held in May, 1942 by officially-designated representatives were accepted by the cooperating societies through correspondence with the executive officers or in formal sessions during that year. Official representatives to The Inter-Association Council were then duly appointed. Meetings of the Council were held in August, 1942 during the annual convention of the American Veterinary Medical Association; in December during the meetings of the American Society of Animal Production and the U. S. Live Stock Sanitary Association; and a special meeting was held in New York during July, 1943. For the guidance of the Council in its activities, a set of rules and regulations were prepared, and a copy placed on file with the secretary of each member association.

The first endeavors of the Council were directed toward the development and preparation of well-coordinated programs which would assist the livestock owners in meeting the goals of production which had been requested of them. Plans were worked out for carefully selecting consultants to prepare educational programs on the various classes of livestock. These consultants were selected with the aid of the officers of the respective associations.

Programs have been received from the consultants on sheep and goats, swine, and dairy cattle. The Council has had under consideration ways and means of getting these published so that they will receive wide distribution, and thus accomplish the purpose for which they are intended. Some editing was necessary in order to make the programs more condensed and thus more acceptable for publication. The Council accepted the responsibility of editing and condensing this material because of the extremely urgent need for rapid progress in getting it disseminated while the livestock industry is faced with so many problems resulting from the increased demands made upon it. It is expected that programs relating to beef cattle and horses and mules will soon be made available by the consultants. The consultants on poultry have advised the Council that, in their opinion, the programs of the National Poultry Advisory Council are satisfactory for educational purposes and that nothing further need be done at this time.

Within recent months, there has been organized what is known as the National Live Stock Conservation Program. The Council has extended to this group an offer to cooperate with it to the fullest extent. The indications are that an arrangement will be made which will enable The Inter-Association Council to render valuable assistance to the important undertakings of this program.

In the original resolution, which resulted in the formation of the Inter-Association Council, it was proposed that the National Research Council be requested to consider the appointment of a committee on animal health. The National Research Council saw fit to act upon this suggestion, and a committee composed of veterinarians, animal nutritionists, and animal production men has been appointed. A program concerned with research problems is well under way. The Committee on Animal Health is holding a meeting during this convention of the American Veterinary Medical Association, and it has invited the members of The Inter-Association Council to attend and discuss matters of mutual interest, including development of plans for future endeavor.

At the invitation of Dr. E. C. Auchter, Director of the Agricultural Research Administration of the U. S. Department of Agriculture, a conference was held in April of this year in Washington, D. C. Representatives were invited from the American Veterinary Medical Association, the U. S. Live Stock Sanitary Association, the National Assembly of Chief Live Stock Sanitary Officials, and The Inter-Association Council on Animal Disease and Production. The purpose of this conference was to discuss increased service by different branches of the Department of Agriculture concerned with the livestock interests of the nation, particularly during the existing crisis.

Many of the problems preventing the improvement of animal welfare and productive efficiency can be solved only by a pooling of the knowledge possessed by those engaged in different fields of endeavor, such as nutrition, farm management, genetics, sanitation, and veterinary medicine. Consequently, the Council felt that one of the biggest services that could be rendered the livestock industry would be the preparation of a report on the status of livestock production and disease control, which would embody the viewpoints of the various ones working from different aspects. Specific recommendations will be made for improving productive efficiency and rendering more effective service to the livestock industry.

The Council, as a result of the deliberations that have taken place, already realizes the possibilities of rendering great service, not only to the livestock interests but also to the public at large and to each and every member association of the Council. The work is really only



beginning to get under way, and the Council feels that its work has been definitely handicapped by lack of funds. Since the emergency demands active progress and since it is expected that the demands upon the time and energy of the Council will be heavier in the future, the following motion was adopted at its most recent meeting:

"Therefore, it is hereby moved that the respective associations be requested to provide an annual contribution to the Council on the basis of \$25 for the first 500 members and \$0.01 for each active member in excess of 500, with the monies to be used for incidental expenses such as postage, mimeographing, clerical help, and the like; such funds to be made available to the Council through the respective representative by October, 1 of each year, beginning with the current year."

S/H. W. JAKEMAN

## Representative to the National Research Council

The annual meeting of the Division of Medical Sciences of the National Research Council was held in Washington, April 29, in the board room of the National Academy of Sciences. Aside from the members of the various committees, many representatives of affiliated societies were present. As could be expected, the trend of the discussions, and also the material presented for consideration, dealt primarily with the efforts put forth by the medical sciences in our execution of the war. Dr. Lewis H. Weed, chairman of the Division of Medical Sciences, gave an exhaustive report on the activities of this important branch of the Research Council, and it was apparent that the research activities in the past year, as undertaken by the many institutions benefited by the financial assistance of the Research Council, have been productive. The chairman also emphasized that activities had been somewhat hampered by the calling into active military service of many of those directly or indirectly engaged in work on research problems. The number of fellowships awarded was fewer than in past years, primarily because of military demands for medical and scientifically trained men.

The agenda, which called for reports on the regular and interdivisional committees, particularly stressed the great need for the solution of present problems confronting our nation. It was further evident that as a result of the Council's activities, certain discrepancies which have resulted from food rationing have been corrected. The Council has attempted to influence the authorities to provide adequate food supplies for hospitals and individual pa-

tients who might be in dire need of special diets because of diseased conditions, special reference having been made to diabetics who could not be provided with the essential diet.

General Simmons of the Army and Captain Hall of the Navy reported for their respective services on the assistance and splendid cooperation rendered by the Council to the armed services, stressing especially the efforts in affording medical men special classes and training in the study of tropical diseases which, because of the wide distribution of the military personnel throughout the world, has become a paramount problem. Closer coordination of all medical activities in order to avoid duplication of study and administrative efforts was also stressed.

The publication of various "Manuals" on the different branches of medical science has proven very profitable.

The importance of the tremendous benefits resulting from the use of blood plasma was especially emphasized, and the gratifying information given that at the present time approximately 80,000 donors weekly furnish the necessary blood for the processing of the plasma. Thus far, blood substitutes have not as yet been found satisfactory, and this applies especially to bovine albumin which, for a time, was hoped to be a valuable substitute. However, on careful study and clinical trials, it has been found to be unsatisfactory because of the large number of severe reactions which followed its administration.

The fight against malaria still constitutes an important problem confronting medical science. However, according to reports, the details of which cannot be given because of censorship, progress is being made with mosquito repellents, both in the form of destructive agents of mosquitoes being dispersed through the dropping of bombs, and also by the development of a repellent which, upon a single application, keeps mosquitoes away from the body from five to ten hours. Similar progress has been reported on the delousing efforts, both with regard to the clothing as well as the direct application of a specific powder which, when properly applied, keeps the body free from lice for at least five days.

It was further emphasized that the medical authorities should not delay the consideration of the important problems which will confront our country after the war in our efforts to demobilize the Army and the Navy. The possibility of introducing diseases from new sources will require the utmost surveillance and effort, and with that in view, the problems should now be given due consideration.

It occurred to your reporter, in looking over the fellowships granted by the Council in the past few years, that there was not a single veterinarian appointed for such a fellowship.

In view of the fact that many of the infections of animals are transmissible to man, and furthermore that the laboratory studies of various bacterial and viral diseases are closely allied with those of human medicine, it appears that the Association should encourage the application of veterinarians for such fellowships, and it may further be advisable for the Veterinary Research Council to point out the benefits which accrue to both the medical and veterinary professions through such appointments.

s/A. EICHHORN

### Representative to the Division of Biology and Agriculture, National Research Council

This is the first year that the AVMA has had a representative on the Division of Biology and Agriculture of the National Research Council. Your representative received from the Division official notification of his appointment on Mar. 18, 1943. Shortly thereafter, on April 10, the annual meeting of the Division was held in Washington. Dr. Robert F. Griggs, Chairman of the Division, presided. Twenty-one members and four guests were present.

In his opening remarks to the members, Dr. Griggs stated that the Division consists of two parts: the members and the committees. The division officers are in closer touch with the committees than with the members. It was pointed out that the members could be brought into closer touch with the work of the committees by having more committee chairmen present at the annual meeting to report in person. The hope was expressed that this could be done.

Since the members of the Division had previously signified that the problem of war personnel was of great interest, the chairman invited Dr. Homer L. Dodge, Director of the Office of Scientific Personnel of the National Research Council, to speak. He spoke at length of the work of the OSP, which is concerned with all scientific and technical fields in which there are manpower shortages. Procedures that have been found most useful in conserving the physics personnel for the war effort are being extended to other fields. A number of local board memorandums and activity and occupation bulletins have been issued.

Impressed with what had been accomplished by the physicists in the conservation of personnel in this critical field, the Division moved that a committee on war personnel of the Division of Biology and Agriculture be appointed to cooperate with the National Roster, Dr. Leonard Carmichael, Director, in a study and

solution of the manpower shortages in the various branches of biology.

Dr. D. M. Whitaker, who joined the Division in February as executive secretary, spoke on the subject of war research. He pointed out that although this has been called a physicists' war, it is becoming increasingly evident that many biological problems are of importance in carrying on the war. The Division voted to recommend the establishment in the Office of Scientific Research and Development of a committee on biological research. It was hoped that such a committee might be comparable to the Committee on Medical Research and the National Defense Research Committee under the OSRD. The Committee on Biological Research, if established, could recommend to the OSRD the awarding of research contracts concerned with the war effort.

The agenda of the meeting contained reports of numerous committees. The newest committee of the Division, and one of great interest to the veterinary profession, is the Committee on Animal Health, Dr. George H. Hart, Chairman. This committee will work in close cooperation with other groups, particularly the Inter-Association Council on Animal Disease and Production.

The Division reaffirmed the view previously expressed that societies in the fields of science and technology represented in the Division of Biology and Agriculture should plan to hold their annual meetings; such meetings should preferably not be held during the Christmas holidays; at least one session should be devoted to the discussion of war problems.

Respectfully submitted,

s/H. H. DUKES

### Representative to the Horse and Mule Association of America

For the past twenty-three years, the Horse and Mule Association of America has been in existence. In 1920, a few of the leading horsemen of North America got together and organized this association to encourage the breeding and raising of horses and mules. For almost a quarter of a century, they have been looking after the horse, mule, and allied interests.

There have been times in past years when interest in the horse has lagged very much. At such times, the Horse and Mule Association of America has been able to revive the interest in various ways. Especially has this been true in the past year or so. Since engaging in the war, our national secretary has spent much time looking after the horse interests, the leather situation, steel for horse shoes, as well as many other things.

Horses and mules are contributing tremendously to the prosecution of the war, through the production of food stuffs. They will do even more on account of the need of increased food production. This will be greater than ever during the coming year.

In our state (Indiana), the penal institutions have decreased the use of trucks and have increased the use of horses and mules, to save gasoline and rubber.

We know there is a large number of horses being used in harness for short haul work, and thousands of horses are being used under saddle as mounted patrol. There are over 500,000 saddle horses being used for pleasure on farms and ranches. We have more than 12,000,000 horses and mules in work on the farms. The highest number we have ever had on farms and plantations was about 17,000,000 head.

People who are handling horses and mules have found, through the pamphlets put out by the Association, how to keep their animals healthy and free from parasites. They have learned proper grooming and feeding, which means greater production, for when animals are properly taken care of, four can do the work formerly done by six.

We have had much publicity in the press in the past year, due to the activities of the horse people and the Horse and Mule Association of America. More than 75,000 copies have been put out by the Association on the handling and management of horses. This has been of great help to the horse interests. Recently, one was sent out on the dangers of overheating animals.

An article featured in *Time Magazine* (Apr. 19, 1943), concerned the Mule Day Auction in Columbia, Tennessee. Some jacks, it stated, were priced as high as \$2,000 each. There was plenty of fast bidding in the sales. The military and farm demand for mules is the biggest since World War I, but the supply is down 15 per cent from last year, and the prices have jumped from more than \$150.00 to \$200.00 for single animals. The peak price in that particular auction was \$765.00 for a single team of mules. Just recently, a pair of grade mares in my own neighborhood sold for \$400.

Never has there been such interest taken in the breeding of better horses and the selection of better sires. Last spring, there were several stallion and jack shows held in Indiana, in different sections of the state. These attracted good crowds interested in selecting good sires.

Just now, there is more of a demand for a new general-purpose horse than for any other type. Years ago, we had a class of horses known as the general-purpose type. That passed out of existence, and we had what were known as the heavy draft and the light draft. There is also a demand for a different type of mule from the kind we had a few years ago. The present demand is for a chunkier, heavier

body. The type of jack has changed from the rough, lanky type of former years, to a chunkier type of animal, also.

At the present time, there seems to be a greater demand for all types of horses, especially for the light ones. There are more people riding today than at any time in the history of riding. The Western Riders Association has created a demand for that type of horse. They have taken the country by storm. Possibly, this type of horse will come nearer suiting those who just want a horse to ride than will the gaited horse, which must be trained. These horses can be used on farms, ranches, or purely for pleasure. This is especially essential now when there has been such a let-down in the use of gasoline vehicles.

In traveling over the country, I see more horses hitched to buggies and carts than for many years. There would be even more were it not for the difficulty in procuring the proper horse-drawn vehicles.

If the shortage of rubber continues, there will be still more horses in use for transportation. It is essential, in this case, for us to encourage the breeding of horses and mules.

It might be of interest to all of you to know that one mule company in the South, with which I am acquainted, handles more than 70,000 mules a year. There is still a good demand for mules, especially in the South, and it will continue all over the country if the gas rationing continues.

Already, this spring and summer, there have been some good shows held throughout the country, especially the light horse shows. Many more dates are set for the fall season. Some of these small shows have attracted the finest horses that ever graced a state fair arena. The people who are breeding and training fine horses are looking for a place to show their stuff. We are glad to see the small show go on, as it encourages breeding and training. Interest will not lag in this particular line of activity. In many cases, revenue has been gained for defense by this means.

There is a serious shortage of young work stock. We should do everything possible, therefore, to encourage the production of horses and mules. Two-thirds of all farms are operated by animal power exclusively, and other farms which are more or less mechanized, still have, in nearly all cases, one or more pairs of work animals. Many of the larger farms keep a saddle horse to ride over the place and supervise the work.

The Association has been putting forth every effort to improve the horse situation and to help the horse industry in every way it can. It has rendered valuable service to the horse-men and has also helped the veterinarian. May we look to you for support in the future, as you have rendered it in the past.

a/T. A. SIGLER



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## An' Related Topics

### A Night Guard Silhouette



The soldier and his dog on guard duty with troops in a present theater of operations, somewhere beyond the seas. The black background of the silhouette is a mountain at night. It is reproduced from an official print in an army air force publication named Areascope. The inset is from News Week, reduced for our purpose.

Since far-seeing cynophiles founded Dogs for Defense, Inc., you've heard a lot of wisecracks about war dogs. You've heard chuckles about the dogs going to war and war going to the dogs. Knowing something about dogs, something about war, and perhaps something about war dogs with troops in battle, you knew that the main joke was the jokester. Dogs *have* gone to war, and war did finally go to the dogs in the American military set-up just as big wars have done ever since the Azilians 12,000 years ago, went forth with trained

dogs in their battles for food. In man's battle for life, the dog has been a *natural*, in modern war, a useful adjunct if not a *necessity*. No one is laughing off the war dog. One can now report that thousands of them have gone to war and are occupying posts of duty. Some have already been cited for meritorious service with troops in action and with the service of supply and production. Dogs have leaped ashore ahead of invading forces, and as the picture of the soldier and his dog we reproduce above indicates, some are giving yeoman service

# Defense

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## An' Related Topics

on guard in the dead of night. Reports of canine sagacity in the jungles of the South Pacific are filtering through the censor. You've probably read the story of Hey, Chow-Shepherd mongrel, who spotted Japs sneaking up through the brush. Taps for the Japs! And, of Jojo, a Spaniel, on duty in the Solomon Islands, who spotted an enemy detachment creeping up from the shore and saved his human comrades from extermination. Come, also, stories from Russia and Britain of snipers and patrols located and dispatched through the canny olfaction of the K9 guardsmen. As veterinarians know the physiology of dogs, their mental power and its limitations, and some have seen dogs in action on battle fields, these episodes are unnecessary testimonials in behalf of the war dog. In the veterinary profession, the K9 Corps of World War II is taken as a matter of course. World War I is not all forgotten. When a nation at war for its very life takes to the field, it is not likely to leave any gap in its military organization. In our military history, the absence of a war-dog was a gap, but is now a gap that has been filled.

The number of dogs in our "K9 Legion" has not been announced but that it runs into sizable figures and that dogs are fighting side by side with our soldiers is gradually coming to the surface of war information, thanks to a far-seeing Quartermaster General and General Staff, and Dogs for Defense, Inc.

## The Practical Man

By tradition, we dote on the practical man, meaning the guy who "learned his" the hard way. Farmers pooh-hooh at the research that pays off the mortgage. Politicians reverse themselves by jeering at brain trusters in one breath and voting big appropriations for education on the other. "He learned his trade in the factory" is the prevailing notion of a good engineer. Then, there are those damn West Pointers running the Army, and the Ph.D.'s, the big industries. These are a few out of many popular tintypes filing across the screen. It would seem that our cardinal sin is sending the boys to college.

For the practitioner who cares



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*Issued Under Date of*

**October 1940**

**January 1941**

**July 1942**

**January 1943**

AMERICAN VETERINARY MEDICAL  
ASSOCIATION

600 S. Michigan

Chicago, Ill.

## An' Related Topics

### You May Drop Off in Iceland

Iceland is the *First American Republic* and the oldest republic in the world. Its capital, Reykjavik, is a city of 40,000. Iceland celebrated the 1000th anniversary of its parliamentary system of government in 1930. The population is 120,000. More than 50 per cent of Icelanders speak the English language and about 75 per cent understand it. The mean temperature is comparable to that of Maryland. It's a land of swallow-tail coats, top hats, and white ties, not of Eskimos and Polar bears as one may have supposed. There are excellent schools and no illiteracy. One of its people—the Viking, Lief Erickson born in Iceland—was the original discoverer of America (11th century).

The most important industry is raising livestock, mainly cattle and sheep, on the alluvial plains skirting its barren, uninhabited mountainous interior. Its homes, public buildings, and its many greenhouses are heated with water piped from natural volcanic hot springs. Swimming, skiing, skating, soccer and wrestling are the sports. It has modern hotels and movie theaters. Radio breaks the monotony of the long winter nights. Writes a veterinary officer: "If you drop off in Iceland on the way, you'll be welcomed."

The amateur literary critic is the Wolfhound of spelling—the elementary branch of the grade school curriculum already started in the kindergarten.

Lexicographers please notice! The *Cattleman* of Fort Worth has coined "cattle-log" and the *Poultry Tribune* of Chicago "egg-a-torial."

IN CANKER  
OTORRHEA  
EAR MITES

VETERINARY

*Auralgan*

Veterinary Division

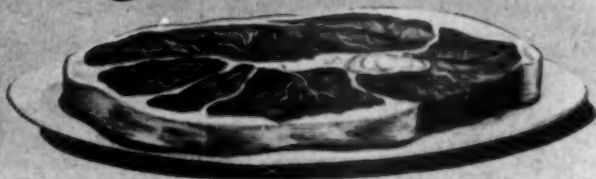
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### An' Related Topics

Says Il Duce to the King: "Et tu, Brute."

Tops in comedy: Hitler, Goebbels, and Goering hiding behind the skirts of religion.

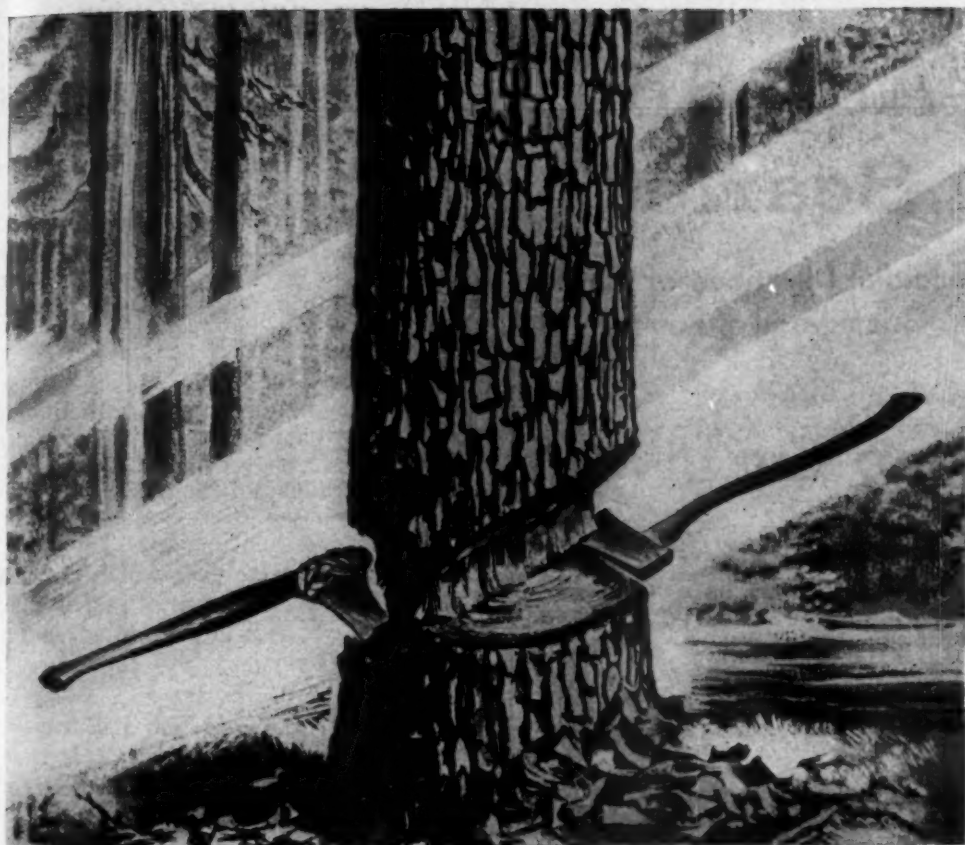
'Twasn't the cold, scoffing, fiend of Goethe that paved the way for this war. Give the devil his dues. The Schickelgrubers were still back in the clearing when Caius Julius Caesar, of the Mussolini breed, started the big show of the 1940's.

The bombing of modern Rome is a reminder of the complete destruction of the literature and schools of the ancients by its builders. In this and other respects, it seems to be a question of "whose goose." Men, nations, and religions were never famous for kindness to one another.

Contrary to a common belief, says a War Department document, wolves seldom travel in packs. Many wolves are lone wolves. They run from man if he stands still when a wolf threatens attack.

### Decayed Whale Meat Is Edible

Quoting from an official publication of the War Department: "Whale carcass might by chance be found lying on the shore. Even if the whale is old and decayed, don't be afraid to eat every part of it—the dried meat and the dried out blubber, which looks like felt. Seal is an all-around animal—you can eat the meat and use the skin for clothing. Be sure to eat the blubber (fat); when there is plenty to spare, you can use it with some bones and start a fire. If you boil seal, pour some blood into boiling water and stir it up to make Eskimo soup. To get a seal, crawl like one until you get within range and then shoot it in the brain and rush in, before he sinks."



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• These axes were created for the same type of work, but the advantages of the steel implement are immediately apparent on inspection. The differences between *Mulford Tyrothricin* and similar preparations designed for treatment of bovine mastitis are perhaps more subtle but not less important.

Mulford Tyrothricin rarely produces side-effects and treatment may be repeated on the second or third day if necessary. The active ingredients of Mulford Tyrothricin—gramicidin and tyrocidin—are suspended in the

aqueous phase of a light mineral-oil emulsion and full therapeutic activity without undue irritation is thereby assured. This is in contrast to alcohol-aqueous preparations of tyrothricin which frequently cause intense irritation, swelling of the treated quarter, and marked elevation of the temperature.

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12—1 pounds powder ..... 5.40

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## An' Related Topics

Monuments erected to the memory of famous men can be bombed off the face of the earth, but what they did can't be blasted out of a single mind.

When the Nazi-Fascist régime wrecked the working tools of Sir Joseph Lister, they wiped out a greater symbol of human achievement than the tombs of the fiddling Caesars.

Chas. Haasjes, Shelby, Mich., believes that less tyrothricin, novoxil, sulfanilamide-in-oil, etc., would be needed in dairy practice if barnyards were abolished and turned over to the raising of cabbage.

Soldiers, like hunting dogs, are gun-shy through nervousness over which they have no control. Cornell University scientists attribute gun-shyness in dogs to adrenal and thyroid deficiency.

As a result of World War I, Europe was impoverished and convulsed. This time it will be shattered into fragments.—*Hiram Motherwell in Science Digest.*

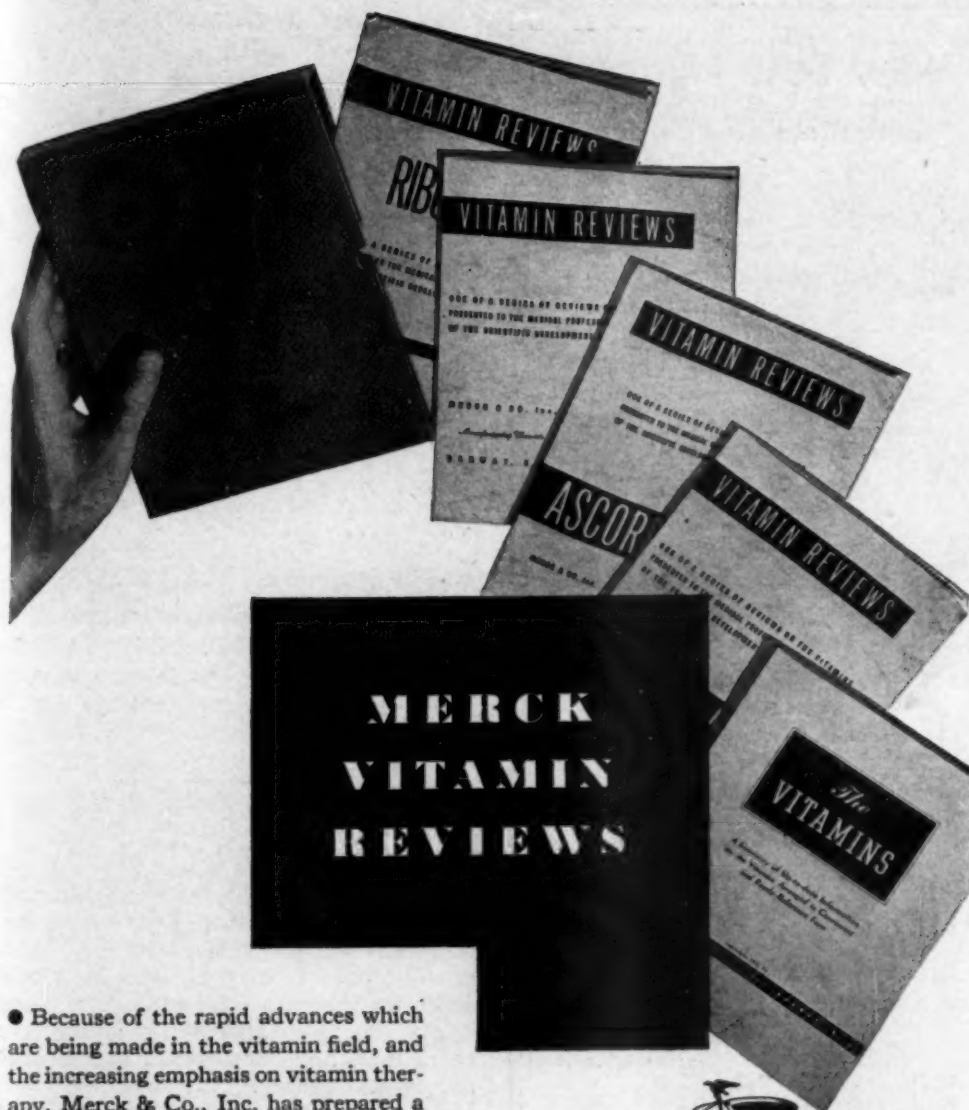
Khaki is a Hindu word meaning dusty or dust-colored. In Persian, "khak" is the word for dust.

Writing is a social act but a presumptuous art. It takes the other fellow's time without asking and pays off in coin of its own making.

High ranking commanders of fighting troops call food, cigarettes, and mail the big three builders of morale.

By amplifying noises with mobile loud speakers along the battlefield, attacking forces confuse the enemy as to their strength.

When you go shopping around for Christmas presents, don't overlook the War Bond and Stamp counter Uncle Sam's running.



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Vitamin D (Synthetic)	500 U.S.P. units
Vitamin B <sub>1</sub> (Thiamin Hydrochloride 1 mg)	333 U.S.P. units
Vitamin B <sub>2</sub> (G) (Riboflavin 0.5 mg)	500 Gamma
Vitamin C (Ascorbic Acid 30 mg)	600 U.S.P. units

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Vitamin D (Synthetic)	800 U.S.P. units
Vitamin B <sub>1</sub> (Thiamin Hydrochloride 1.5 mg)	500 U.S.P. units
Vitamin B <sub>2</sub> (G) (Riboflavin 2 mg)	2,000 Gamma
Vitamin B <sub>6</sub> (Pyridoxin)	250 Gamma
Calcium Pantothenate	1,000 Gamma
Vitamin C (Ascorbic Acid 30 mg)	600 U.S.P. units
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Vitamin B <sub>6</sub>	100 Gammas
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## An' Related Topics

Millions of square miles of fertile soil lie untilled, though warmth and water reign in profusion. Parasites hold the command.

The American Indians were the first to raise tobacco, corn and peanuts. According to prehistory, peanuts were raised in the Western Hemisphere as early as 950 B.C.

Although far from being as abundant as in the United States, the United Kingdom does not ration bread, flour, poultry, fresh fruit, fresh vegetables, and fresh fish.

One of the gaps in the study of nutrition which has overtaken medical science is overlooking the indigestion that stands in the way. There is a rough and rugged road between the mouth and the cell. Its name is the stomach.

### Pinus Antiscorbuticus

That war leads to discoveries and rediscoveries of human necessities is illustrated in reports to the effect that decoctions of pine needles are antiscorbutic. Since it was announced that pine-needle tea was used extensively to cure and prevent scurvy during the long siege of Leningrad, it appears that this scurvy cure has been known for several centuries. It was used by the North American Indians before the famous Genoese navigator set sail for Cathay; it was used in the march of Charles XII into the Ukraine (1708); it is described in *Treatise on Scurvy* by Lind of Germany (1775), according to Béla Schick (*Science*, Sept. 10, 1943), and (*ibid.*) it was studied in Vienna after World War I. Lind advised that pine cones and green bark of pine and other conifers be taken along "to make a marvellous drink" on long ocean trips. Certain postprandial cordials (vermouth *et al.*) are in fact "pine-needle beer." The use of *Pinus antiscorbuticus* in veterinary medicine and animal production is something to ponder when and if the mechanism of C synthesis breaks down.



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**An' Related Topics**

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**Good Nutrition**

The International Food Conference which was convened at Hot Springs, Va., brought together a group of political economists and nutritionists from many countries for mapping out what constitutes "good nutrition" for the world's population during the war and the postwar period. It was, in effect, a worldwide admission that availability of *sufficient* and *proper* food is man's Problem No. 1, whether he's fighting, fishing, or playing around; or just what we've been telling the readers of the JOURNAL ever since Hitler, Hirohito, and Mussolini took on the behavior of conquering maniacs.

The conference was not a Council of War. It was a council of something more deadly than the mere killing of men with firearms—a Council of Starvation, or the precursor of a killer that makes the weapons of modern war seem like the schoolboy's slingshot. The name of the weapon is Disease—the master killer which is already taking its toll in countless millions.

From preliminary leakings of the council chamber comes proteins, vitamins, minerals, fats, and carbohydrate and how and where these should be produced and allocated. Inasmuch as Disease is no respecter of any of these, one may be pardoned for asking if the problems of the plant and animal pathologists were thought of in this round-table discussion on the feeding of a hungry world. Food production, that is "good nutrition" is more pathologic than economic. Anyhow, there should be some biologists among the fixers.

---

Defining words is a unique art. After learning to define a word, one has to learn how to define the definition. Socrates "got his" for trying that stunt.

Just a reminder that men, some your neighbors, are performing many a heroic deed on gruesome battlefield.

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Int. Ch. Kurram El Myia, bred and owned by El Myia Afghan  
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See for yourself how effectively and efficiently Gaines promotes all phases of normal growth. Send for free professional samples and test it in any way you wish. Prove to your own satisfaction that it's wise for you to feed—and recommend—Gaines.

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## An' Related Topics

### Bobcats

Bobcat is the name commonly used synonymously for the different species of wild cats of the genus *Lynx*. Although belonging mainly to the wildlife of the northern part of the United States and western Canada, some species flourish as far south as northern Mexico and as far east as the Atlantic states. The more common American species are *L. canadensis*, of the North and *L. rufus* of the East.

The bobcat as an inhabitant of the forests in the North and East and the plains and deserts of the Southwest, is a problem of domestic animal production. The advance of farming and ranching furnished food for this deadly predator in the form of young livestock and poultry. Its natural food was rabbits and other rodents, deer, antelope, and ground-nesting birds (turkeys, pheasants, quail).

In certain parts of Arkansas swine

breeding is greatly hindered by bobcats and sheepmen of the intermountain country tell of large numbers of lambs having been massacred by a lone bobcat in a single night. The shelter of rugged terrain against storms is also good shelter for the bobcats. Trapping has been found to be the most effective method of control, says Bulletin No. 1, USDI.

The siren on top of the R.C.A. Building has the "cry" of 4,000 million ordinary men. It can be heard 75 miles away. The eruption of the volcano Krakatoa in the East Indian Ocean in 1883 was heard 3,000 miles away.—*From Scientific Monthly.*

If you'd ask us, we'd say that the German people like Hitler about as much as sailors like the marines—because they have to, for the time being.

UNITED STATES PATENT — 2,323,704 JULY 6, 1943

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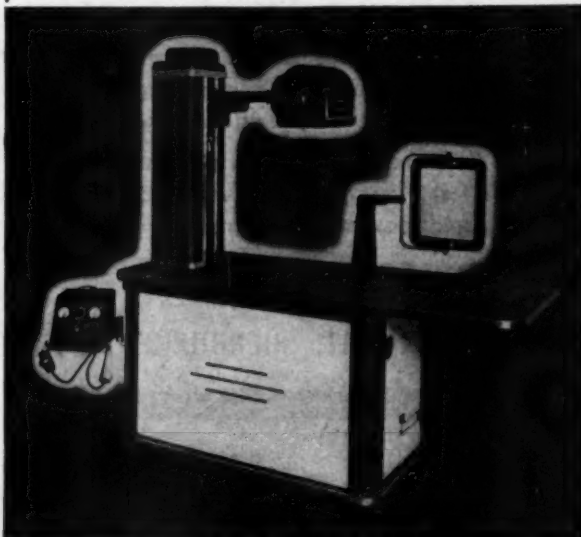
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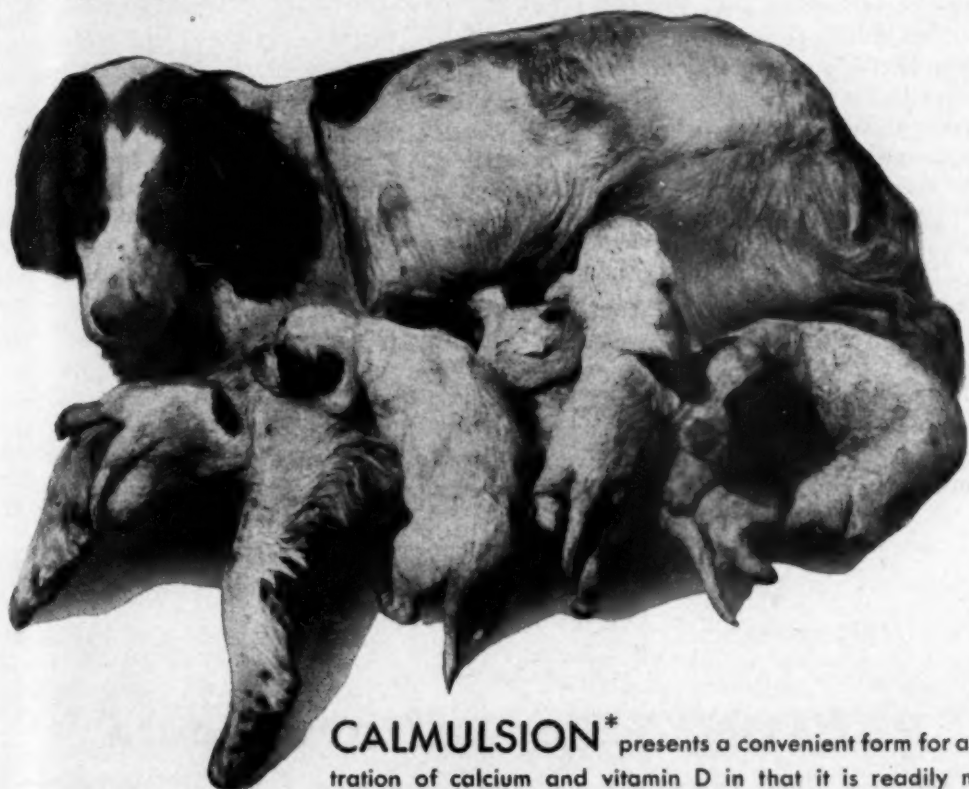
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*Department of Veterinary Medicine*

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## Word Building

While science was advancing by leaps and bounds, many verbal aberrations crept into the English language. Science developed too fast for the grammarians to keep pace. As new words came into the English vocabulary, their spelling was governed by usage rather than by the teachings of philology. It was obviously more facile to yield to consensus than to argue over word building based upon linguistic origins. Such trivialities as adjective suffixes entered by default in many instances and the mixing of word parts from different languages was not rare.

One of these examples is the reckless pluralization of generic names abounding in the literature of the biological sciences, and also the arbitrary fabrication of adjectives pertaining to them. Whether an adjective for *apophysis*, *epiphysis*, *hypophysis* should be in "eal" or "ial" is pointed out in a recent issue of *Science* as an

example of reckless word architecture by scientists, famous in their own field, but reckless with the science of others. Usage in such respects rules to such an extent that some vocabulists of the upper bracket prefer "eal" in one instance and "ial" in another, with arguments drawn upon in support of their choice. Granted that the basis for word building is the root language (which in this instance is Greek), the "ial" suffix would be proper (*apophysial*, *epiphysial*, *hypophysial*) but the "eal" ending has been used so long that even the Websterian savants give preference to it. The source of that spelling is the French language which came into being many centuries after Homer. The French spell these words *apophyse*, *epiphyse*, *hypophyse*, so the English lexicographers just added the conventional "al," famous ending of so many of the adjectives we use every day.



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## **An' Related Topics**

### **The Farmers' Income for 1942**

The gross income of American farmers in 1942 was \$18,700,000,000, a gain of \$4,700,000,000 over 1941. The net income after deducting operating expenses, was \$10,200,000,000, as compared with \$6,700,000,000 for 1941. The leading money makers were:

Meat animals	\$4,889,000,000
Dairy products	2,289,000,000
Poultry products	1,588,000,000
Total	\$8,766,000,000

For the plant products, the figures are:

Cotton and seed	\$1,408,000,000
Vegetables	1,104,000,000
Food grains	933,000,000
Forage crops	787,000,000

Total \$4,232,000,000

The remaining \$5,000,000,000 are credited to miscellaneous crops and fruit.

### **Knowledge of Food Sources**

A technician, who is a college graduate and employed as an engineer for the public health service of a fairly large American city, thought the calf which the butcher was skinning was a hog. He learned for the first time in his education that veal is calf meat. Ignorance of meat, milk, and eggs is widespread among school children. Whether the school lies in the center of New York City or is located at a remote cross-road of North Dakota, there is something lacking in a costly educational system that leaves a large percentage of the general population uninformed on the source of food. Moreover and unfortunately, ignorance of the simplest facts about food sources exists in the chateau of the gold coast as well as in the shack of the slums. Until the art of animal production, of which veterinary science is a component, is known for what it is in human affairs, ours will be an uphill pull.

What cares a man for you,  
'Til he knows just what you do?

If there is anything more important to veterinary medicine than correcting such faults, our ears are wide open, and if there is a better plan to correct them than the teachings of organized effort, that too will get an attentive ear.



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You're not in headlines. You don't get medals or "E's" for outstanding war production.

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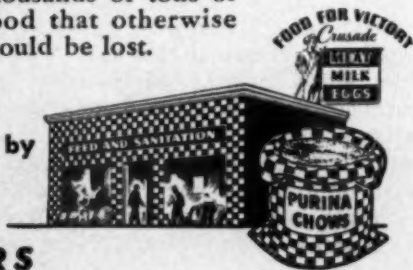
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Standard reference work on all breeds, dog subjects, pictures, etc.—Judy's *Dog Encyclopedia* (with 4 supplements) \$5 complete. Judy Publishing Co. (*Dog World*), 3323 Michigan Blvd., Chicago 16, Ill.

The American Philosophical Society donated \$10,000 and the American Physiological Society \$5,000 for the support of science in Britain. Commenting on these gifts, President Dale of the Royal Society, in *The British Medical Journal*, speaks of the natural and helpful comradeship among medical men of different countries, especially among physiologists.

\$15,000,000,000 in just a few days was your answer to the call of heroic men fighting in many places.

The over-touted antigray-hair vitamin was proved to be of little value in tests on 19 aged, gray-haired men and women made at New York University by Drs. Harold Brandleone, Elizabeth Main, and J. Steele. After eight months of intense vitamin treatment only 2 showed any favorable change in the color of their hair. In 17 of the patients, their gray hair took on a yellowish or greenish hue. Younger patients may react more favorably, these researchers suspect.—*From Science News Letter*.

## An' Related Topics

### Renaissance of Spa Therapy

While microbiology was having its romantic sway in the medical drama, "going to the springs" lost caste in the field of medicine. Spa therapy, the all-embracing hope of the chronically sick, was rated as that much empirical bunk. That baths and libations of mineral waters would kill germs, age-old as that treatment was, did not fit into the new program of pathology. Vichy, Baden-Baden, Nancy, Bourbonne les Bains, and, in this country, Saratoga Springs, Hot Springs, French Lick, Sulphur Springs, etc., etc., lost their former popularity. But with the coming of new knowledge of the process of nutrition, the rôle of certain catalysts, stimulators, enzymes, and building material contained in reputable mineral water began again to focus attention to the therapeutics of the spas. No pathologist of this day questions the possible benefits to be derived from the trace minerals—the inorganic vitamins—which, although unknown in former times, now account for the reputation that certain spas throughout the world have maintained for many centuries. With the aid of clinical, physical, chemical, and pathological laboratories now installed at these onetime mysteriously effective health centers, spa therapy promises to become as scientific as it was once just fashionable.

### The Cause of Overeating

Excessive obesity and overeating, so common in the human being of both sexes, is related to lesioned or dysfunctioned hypothalamus, the region of the brain of which the pituitary gland is a portion. That type of obesity is sometimes called *hypothalamic hyperphagia*, that is, excess appetite due to metabolic defect in the metabolism of fat originating in the hypothalamus. Because the pituitary gland itself may not be directly or primarily involved, it has been difficult to implicate it in excessive obesity.—*Deduction from an article by Tettersman, Brobeck, and Long. Yale J. Biol. and Med.* 15, (July, 1943) : 855-874.

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